The Public/Private Interface:
Inhabitants Take Part

by

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ABSTRACT

The ambience of public spaces in an urban environment is generated in part by the character of the buildings which form the spaces. The concern here is that a building's interface with the public domain contributes to the vitality or aliveness of public open spaces.

With the purpose of developing both conceptual and physical design criteria for a building's interface with the public, three questions are addressed:

1. What generates the quality of aliveness in the built environment?
2. What is the role of the public/private interface?
3. How can this interface be designed to contribute to the aliveness of the public domain?

The intuitive notion of aliveness is explored in Part 1. In Part 2, the conceptual development and definition of "interface zone" is given. Finally, Part 3 presents a catalogue and commentary, primarily of modern buildings, which (potentially) manifest the quality of aliveness. Emphasized is the manner in which physical elements and spaces are designed to encourage the individual's contribution to, or impact on, the built environment experienced by the public. For the purpose of comparison, and because of personal interest, Part 3 focuses on buildings which partly or entirely comprise housing.

Thesis Supervisor: Barry Zevin
Title: Assistant Professor of Architecture

for: charles
joanne
carl &
ivie

Many thanks to. . .

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&
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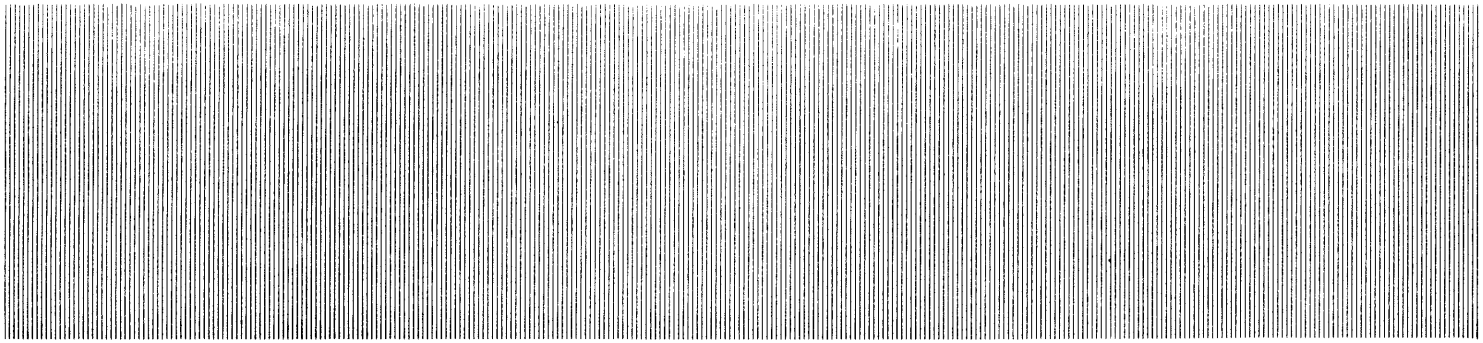
Introduction



Growing up in suburbia just eight miles from downtown L.A., there were a few things I learned at a very early age. Downtown was for drunks, "density" was a bad word, and "urban" unheard of. The only benefit gained from living in the greater metropolitan area was the cancellation of physical education classes on smog-alert days. So what good was the city? If you were old enough, you could borrow the car and cruise . . .

San Francisco was the first place I visited that actually felt comfortable, if not wonderful, to take part in an urban environment at a foot pace. The streets of Telegraph Hill were not just for cars, but were wonderful worlds of gardens, Victorian facades, and hand-built fences affording numerous places to stop and appreciate the care and the hands that had shaped the street-scape. Residents, past and present, contributed something of themselves, something that spoke of their character, even in their absence. Far from the land of the smog-alert, yet in a dense urban environment, the streets of Telegraph Hill seemed to be paths of aliveness.

My interest in the potential of the urban world remained latent until I arrived at M.I.T., where I began working on architectural projects involving urban sites. Through this

1.

exposure at school, as well as through subsequent travels in the Eastern U.S. and abroad, "density" and "urban" began to take on entirely new connotations.

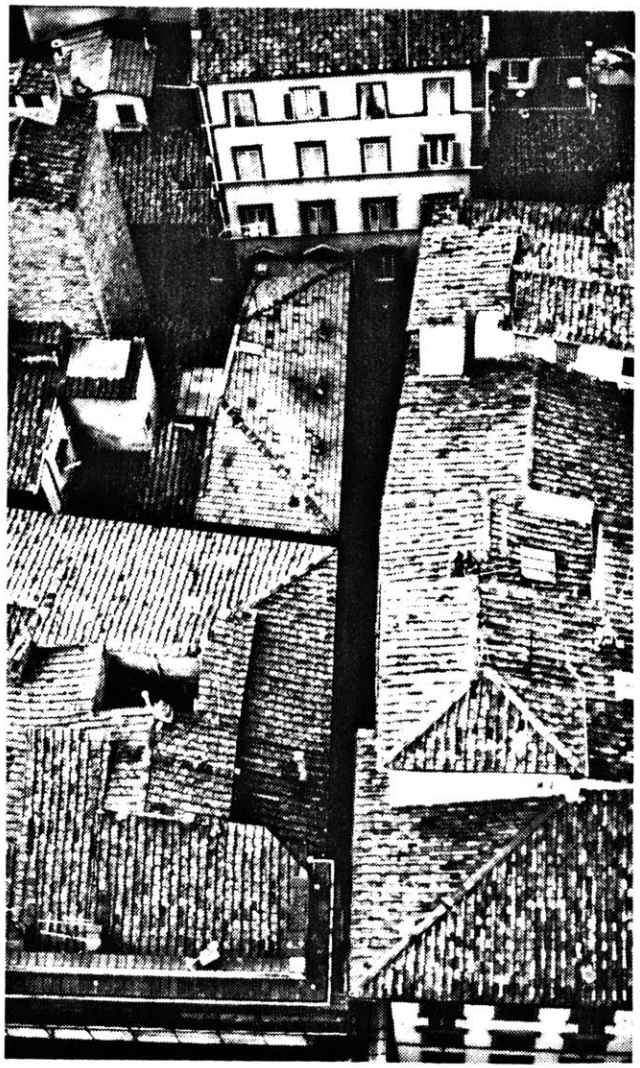
Urban open spaces in historic sectors of European and American cities had not been created primarily for the automobile. ("Is that really possible?") Buildings were generally compacted around the street, embracing the pedestrian rather than standing back for traffic. Building facades which lined the streets and squares formed a continuous but diverse containing wall, and enriched the street experience. Somewhat akin to my San Francisco experience, I found European streets also to be paths of aliveness.

This thesis is the extension of design studio work begun last semester at M.I.T. The European experience was still fresh in my mind while developing a plan for about eight city blocks. In the plan, pedestrian movement and views through the site (as well as vehicular access) generated the overall building-infill scheme. The facades of the building-infill were intended to contain and define the public open space. Beyond that, the design was to contribute to the aliveness of the public domain.

The second goal was somewhat more difficult to tackle than the first, and required a different scale of study altogether.

Near the end of the semester the streetscape study was yet unresolved. Generating this thesis were questions raised at the end of the studio:

1. What design criteria would one develop to achieve the quality of aliveness in public open spaces?
2. How does the facade relate to both the public and private domains?
3. How can facades be designed to enliven the public open spaces? The first question generated an inquiry to understand the intuitive notion of aliveness. The second generated an analytic exploration aimed at defining, conceptually, the public/private interface. The third question generated a search and study of modern buildings in which the interface manifested aliveness. A catalogue and commentary is made as a reference for design.



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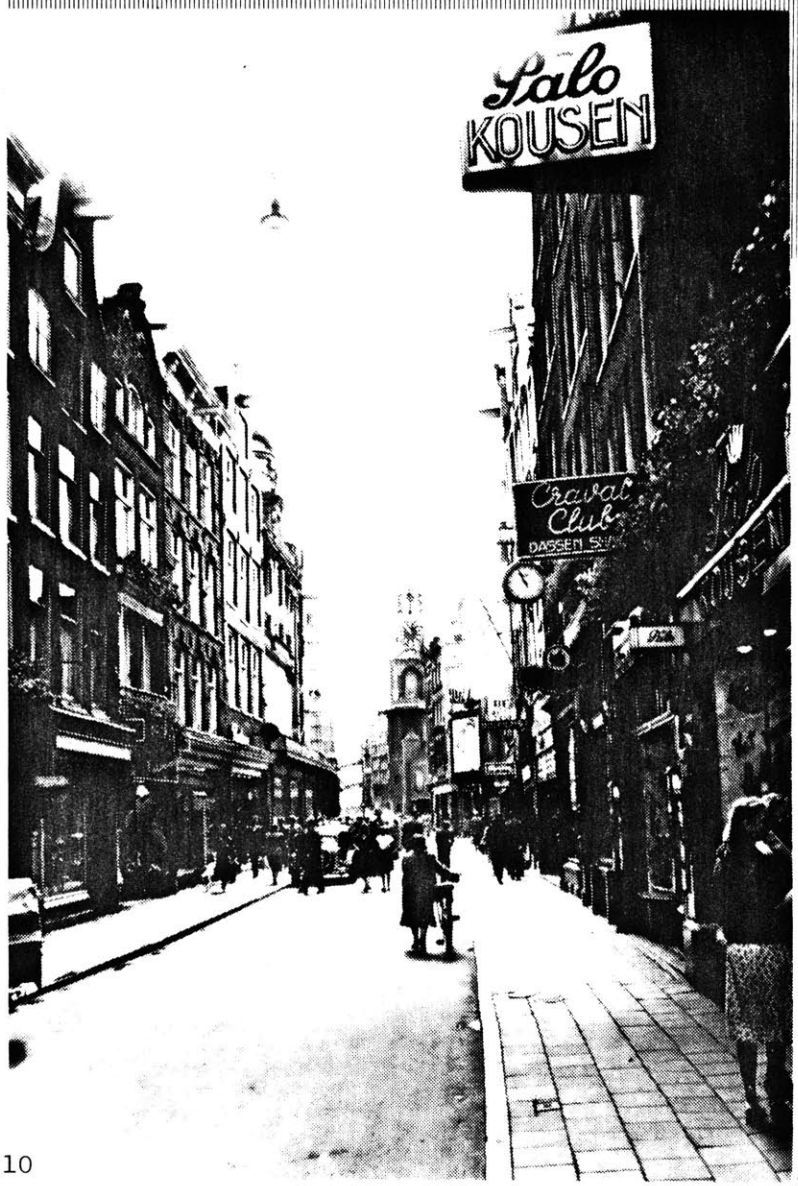


Aliveness

Observation and interpretation serve as a point of departure for understanding this intuitive notion of aliveness. The streets of Mediterranean hill towns; of Dubrovnik and Amsterdam; of Telegraph Hill all possess the quality of aliveness. What do these places, constructed in different contexts and eras, have in common? What generates their vitality? Contemporary buildings, or streets in modern developments rarely manifest this quality. This observation gives an important clue to understanding how a built environment becomes alive.

Aliveness is manifested through individuals' direct involvement with the shaping of a place over time.[1]

1

To shape a place is to:
build,
modify,
inhabit,
adjust,
or occupy it.

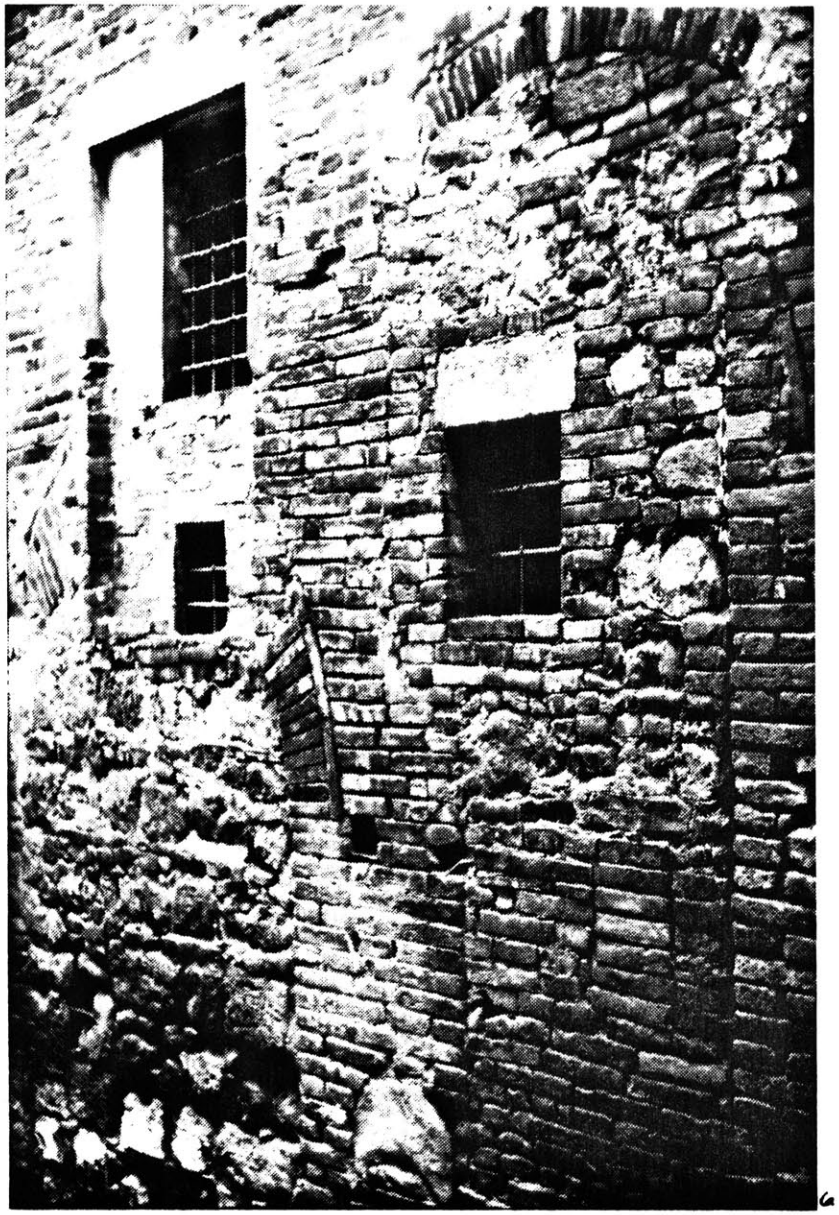
1.
This may explain why new buildings lack aliveness; they are simply too young. In the search and catalogue of modern buildings which possess the quality, more often have I found modern buildings which could potentially develop the quality over time.

5.

Everyone in a primitive society participated in constructing the dwellings and other buildings necessary to meet their daily needs.[2] Because there was a direct relationship between hand and material, the buildings were imprinted with the aliveness of their creators. The primitive settlements, as a collection of individuals' direct efforts, also manifested this quality.

The pre-industrial vernacular dwelling[3] was also hand crafted, though usually by a tradesman working with the owner. (Everyone still knew how to construct his own dwelling, but tradesmen's skills were better.) Dwellings, clustered in a village, formed the public ways. To experience these public ways, one can sense that they were made and re-made through the direct efforts of those who had lived there. Such a place manifests the aliveness of its inhabitants, past and present.

The urban environment today decreasingly depends on the direct involvement of individuals in its formation. The built world is created by teams of specialists, both specialized people and specialized machines. The machine has divorced hand and material. Of the array of specialists involved in the complex process of realizing a building, many see the project only in the form of paperwork on a desk. Seldom do the future inhabitants of a building take part in the process.



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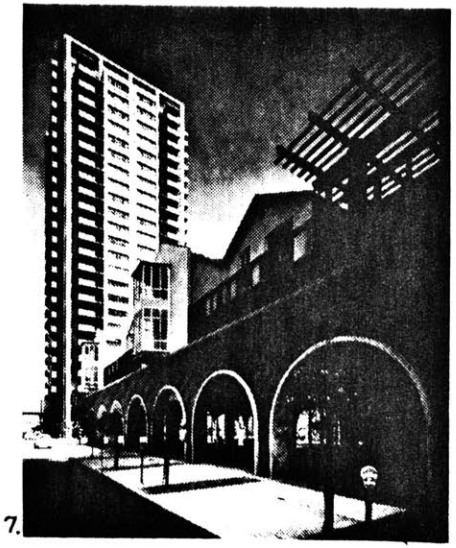


2.
3.
A general description of the building processes of both primitive and pre-industrial vernacular structures is given by Amos Rapoport in House, Form, and Culture, Prentice-Hall Inc., Englewood Cliffs, N.J., 1969, pp. 2-8.

Nevertheless, individuals have not ceased to be directly involved in shaping their environments on a personal scale. Simply by moving furniture into an apartment, one begins to transform a unit into a home. By hanging a sign and displaying a box of apples one begins to carve a living out of rental space. Or by moving in a desk and some supplies, one makes an office out of an anonymous room.

Yes, individuals still directly take part in shaping a place for themselves, but instead of constructing their own buildings, they generally occupy a space within a much larger structure. They shape the interior space to suit the needs of their daily lives, and in doing so, bring an anonymous space to life.

However, this modern version of shaping a place typically does not impact the city's public domain (unlike the analogous efforts of pre-industrial home-making). It's unfortunate that modern buildings shroud or belittle the individuals' place-making efforts behind impersonal, containerlike facades. In our public spaces, we experience only what has been made by specialists. The facades don't belong to those who live behind them as they did previously. They always belong to those who design, administer, and maintain them. It is not through the work of specialists, but through the lives and efforts of citizens that a city can acquire an aliveness of its own.[4]

Given the premise that public spaces are enlivened through individuals' direct efforts to shape their personal domains, the question arises:

HOW CAN A BUILDING'S INTERFACE BETWEEN PUBLIC AND PRIVATE BE DESIGNED TO ENCOURAGE THE INDIVIDUAL'S CONTRIBUTION TO, OR IMPACT ON, THE BUILT ENVIRONMENT EXPERIENCED BY THE PUBLIC?

Individuals would be most apt to shape a place in which they spent much of their time, such as a dwelling or workplace. Buildings such as auditoriums, museums, hotels, or railway stations, accommodate large numbers of people for relatively short periods of time. It is less likely that an individual would take part in shaping these places.[5]

For the purpose of comparison, and because of personal interest, this thesis focuses on the shaping of a dwelling place. But before proceeding, the role and extent of the public/private interface must be clarified in order to provide a basis on which the above question can be addressed.

Aliveness and Liveliness

If you have ever experienced a modern city center on a Sunday afternoon, you have experienced the urban version of a ghost-town. The Monday-through-Friday liveliness retreats to outlying areas with the mass of individuals who brought it. The downtown crowd impacts the environment only by the liveliness of their presence, not by their involvement with its making. Liveliness is not the generator of aliveness..

4.
This may be somewhat inconsiderate of specialists (which include bankers, developers, engineers, planners, architects, draftsmen, secretaries, etc.). Very seldom is a designer able to instill his or her own aliveness into a building because of either personal or external limitations. My apologies to Gaudi and others who have managed to surmount these constraints and get it built as well.

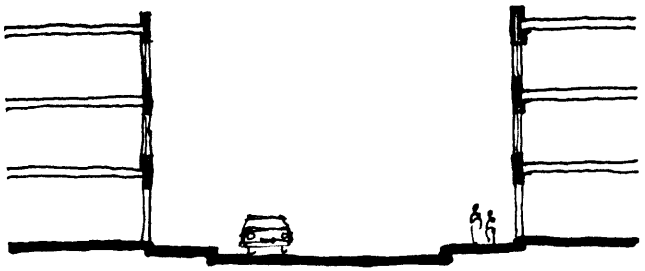
5.
For further information concerning this notion see the "Outline--Extended" of work presented to the 1979 ILAUD Residential Course by the M.I.T. Department of Architecture, September 1979, p. 19, 20.

Public/private

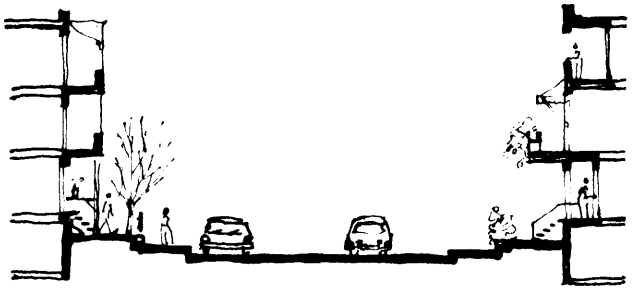
Conceptual Development of Public/Private Interface

The facade can be interpreted as a containing surface of an open space. This simple notion, however, fails to accommodate a wide range of issues. The facade acts not only as a container of public space but also serves as an interface between the public domain and a private dwelling. Moreover, it plays a role in regulating the penetration of climatic factors into the dwelling.

There are a variety of physical elements (such as plants or fences),



BUILDING FACADE AS CONTAINING SURFACE OF OPEN SPACE



VARIETY OF FORMS DEFINE INTERFACE

6. Rather than plunging directly into the definition, I thought it would be helpful to trace the development of the concept as it originated in previous studio work.

If you find the terminology in this section vague, please stand by; more complete definitions follow.

Interface 2

and the spaces which they create (setbacks or yards) which participate with the facade to define the interface between public and private, and to regulate climatic factors. These participating physical elements and spaces, in conjunction with the facade, describe a three dimensional interface zone.

Even this conceptual model is only useful in a limited number of building types: those in which the public/private interface coincides with the facade. But this is not always the case. For example, in a building where dwellings are entered from a semi-public courtyard located adjacent to a street, the public/private interface and street facade do not coincide.

Couldn't a building have several facades, public, private, front, back? Possibly, but to me, "facade" connotes a building's front or public face (like our own). The word also has historical and formal implications regarding proportion, etc., which have no bearing on the concepts addressed here. Thus "facade" is not employed in the definition of interface zone. "Interface" is substituted because it does not imply specific physical elements, but rather suggests the meeting of two different domains.

Facade: the front of a building usually given special architectural treatment (Webster's Seventh New Collegiate Dictionary).

Interface: the place at which independent systems meet and act upon or communicate with each other. (Webster's)

Definition of INTERFACE ZONE

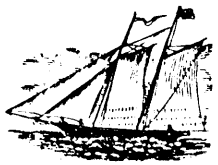
Because the public/private interface requires a three dimensional territory, it should be considered a zone. The interface zone is defined in terms of the relationship between: 1. its function; 2. the territories between which it functions; 3. the physical elements and spaces which perform the function.

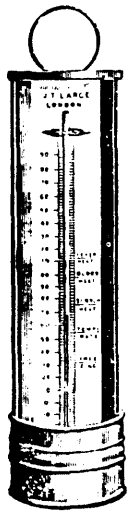
Territory: an indeterminate geographical area. (Webster's)

The function of the interface zone is twofold. First, it regulates climatic factors which differ between the outdoors and indoor spaces. Second, it functions as a mediator between the public domain and a privacy by regulating factors of publicness. The factors of climate and publicness not only provide a point of departure for defining the interface zone's function, but are also the key ingredients in defining other terminology in this study.

Mediate: to interpose between parties in order to reconcile them.

Climatic Factors: 1. Sunlight, may be direct or indirect; 2. Air movement, considered ventilation or wind; 3. Precipitation, rain and snow; in the city the concern is for its removal, to maintain cleared access routes and dry dwellings; 4. Temperature, specifically, ambient air temperature.





Factors of Publicness: 5. Access, pedestrian movement, in public spaces, and from public spaces to dwelling entries; 6. Vision, the primary consideration is for views from public space into dwellings; 7. Sound, the source is considered to be general city noises generated outside the dwelling.

(Note: It is difficult to eliminate entirely the penetration of sound and temperature into a dwelling. The concern for these two factors is that their penetration be reduced, not eliminated.)

The Public Domain; a Privacy

For the purposes of this thesis, the definition of the public domain hinges on the factor of access, while the definition of a privacy hinges on the factors access, vision, and sound.

The public domain includes any territory which is open to free pedestrian access[7], and is part of an unconstrained, socially recognized public path system. An open space in which there is even a weak social constraint[8] over its use (such as a suburban front lawn or a front stoop), is not part of the public domain.

Free pedestrian access may not be limited by property ownership. For example, Peabody Terrace has a system of ground level walkways which are owned privately (by Harvard University) but designed to allow unconstrained public pedestrian access. The walkways are considered part of the public domain in spite of ownership.

On the other hand, a privacy is

7.
8. For a more complete discussion of "free access" and "weak social constraint" see Stanford Anderson's "Studies Toward an Ecological Model of the Urban Environment" in On Streets, S. Anderson ed., MIT Press, 1978, p. 277-81.

a space which is part of "the physical and visual preserve of a single household."[9] It is any part of a dwelling which is enclosable from access, vision, and sound from without. For example, a screened porch which is neither visually nor aurally private is not a privacy. The limitation of access alone is not considered sufficient to maintain a privacy. Bedrooms and living rooms are typically maintained as privacies.

9. Ibid, p. 289.

Physical Elements and Spaces

The interface zone comprises both physical elements and spaces. Physical elements, for example, may include walls, fences, plants, screens, windows or curtains. Spaces defined by these elements, which constitute an important part of the zone, may include setbacks, yards, lobbies, corridors or entry alcoves. These physical elements and spaces in combination, establish the ways in which the interface zone regulates the factors of climate and publicness.

Space: a limited extent in three dimensions. (Webster's)

Definition of INTERFACE ZONE

1. The function of the interface zone is to regulate the seven factors of climate and publicness between the public domain and a privacy.

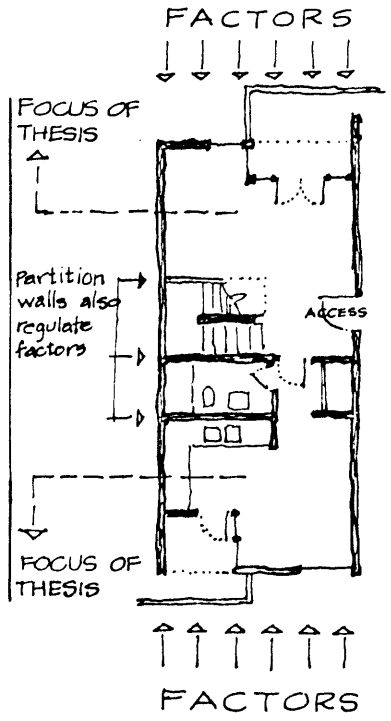
2. Any physical elements and spaces which participate in regulating any of these seven factors describe the extent of the interface zone.

This conceptual definition, intentionally broad, is made in order to understand the scope of the issue. This thesis focuses on a segment of this scope and leaves the complex implications of the definition for future study.

Focus of Thesis

A building has many interfacial layers which regulate factors of climate and publicness. For example, because some factors such as vision, sound or air movement may penetrate entirely through a building to the opposite side, there may be many physical elements and spaces within that regulate these factors. The exterior enclosure is one layer of interface; interior partition walls serve as additional layers.

This thesis focuses on the physical elements and spaces directly associated with a building's exterior enclosure, because these are the elements and spaces that impact the experience in the public domain.



Catalogue

How can a building's interface between public and private be designed to encourage the individual's contribution to, or impact on, the built environment experienced by the public? The interface zone should be part of the domain shaped by the inhabitant. Its form should invite the inhabitants to take part by being designed as a three dimensional usable territory which occurs between two domains rather than as a divider which severs them.[10] A dwelling should include inhabitable spaces both inside and outside the weather enclosure.

Why should the interface zone be designed as a useable territory rather than as a divider? First, it is a naturally inviting area of a dwelling because it has the unique potential for sharing simultaneously the features of both the public and private domains as well as features of both the indoors and outdoors.[11] The interface zone may attract particular activities because of its connection to the outside world. Likewise, the inhabitants' personal belongings which occupy the interface zone may benefit from external factors yet remain secured from the public. Personal belongings which occupy the interface zone become a display to both the public and the inhabitants. The interface zone is inviting to these uses only if it contains spaces in which they may take place.

Secondly, the interface zone functions as a regulator of the seven factors

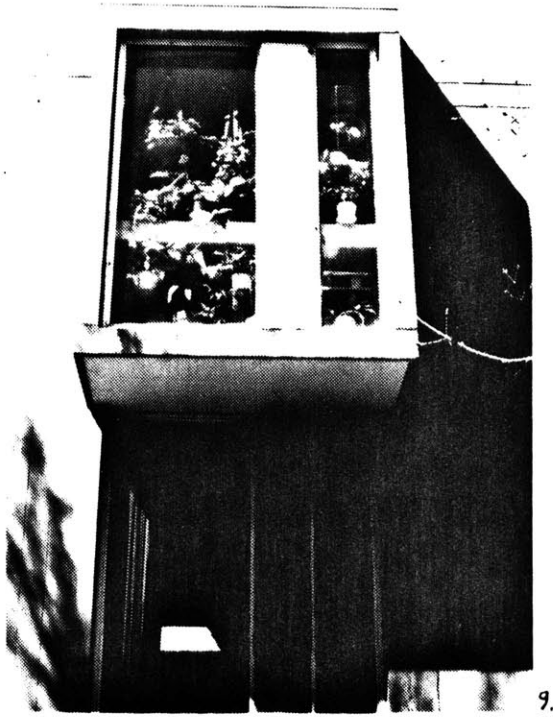
10. It's not necessary that the entire interface zone be designed as a useable territory, but each dwelling should have at least some useable space which is neither fully public nor private and neither fully indoors nor outdoors.

11. Of course the interface zone's potential for use may be inhibited by disagreeable external circumstances such as vehicular traffic, extreme climatic conditions, cultural habits, management policies, or the threat of crime. Leaving aside these site-specific problems, explored here are ways in which physical form is not a handicap added to this list.

3

of climate and publicness. Weather conditions as well as factors of publicness vary throughout the day, week, and season. As these external conditions vary, so does an inhabitant's needs for privacy and shelter. Moreover, different inhabitants may have different needs or personal preferences regarding the relationship between their dwelling and the outside world. Thus the interface zone should incorporate physical elements and spaces which establish a variety of relationships between the dwelling and exterior factors.

It is difficult to establish this richness within the confines of a single planar enclosure. A variety of public/private and indoor/outdoor relationships may be established with fixed elements (such as walls, railings, or fixed glazing). Endless variations in these relationships may be achieved by incorporating operable or moveable elements[12] which may be adjusted by the inhabitants. Fixed and operable elements may occur both inside and outside the building's weather enclosure.[13]



9.

12.
For a more complete definition of "operable" and "movable" see "Outline - Extended", op. cit. p. 19.

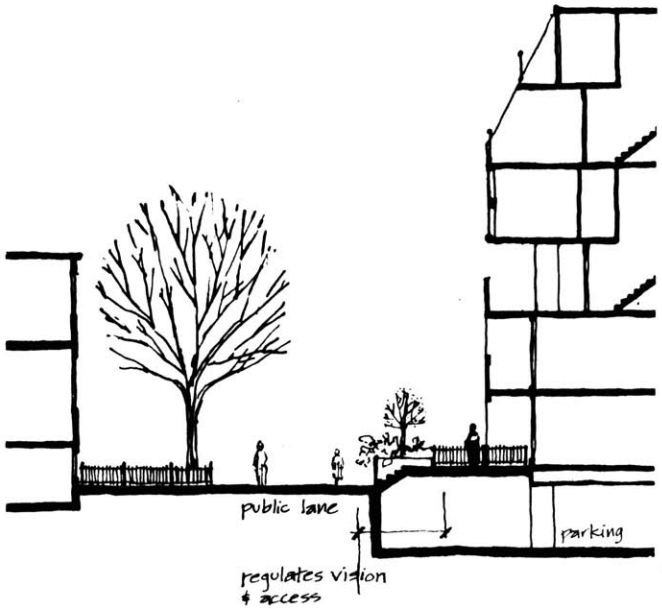
13.
Operable elements outside the enclosure are more energy efficient for controlling climatic factors than operable elements inside. It's best to control sun, wind, or the temperature before they penetrate the enclosure. Conventional interior curtains or shades are useful as additional sheltering layers in adverse climatic conditions.

10.

24

Physical elements which occur outside the enclosure, yet regulate factors of publicness often create an intermediate space which may be claimed by the inhabitants. To the contrary, physical elements outside the enclosure which do not regulate factors of publicness usually fail to define an intermediate space claimable by the inhabitants.

For example, in Barton Myers' project in Toronto, the family dwellings which occupy the ground level directly face a public lane. The planters and small level change between the public path, and the dwellings successfully regulate vision and access to the building, simultaneously defining an intermediate outdoor territory clearly within the inhabitant's claim.



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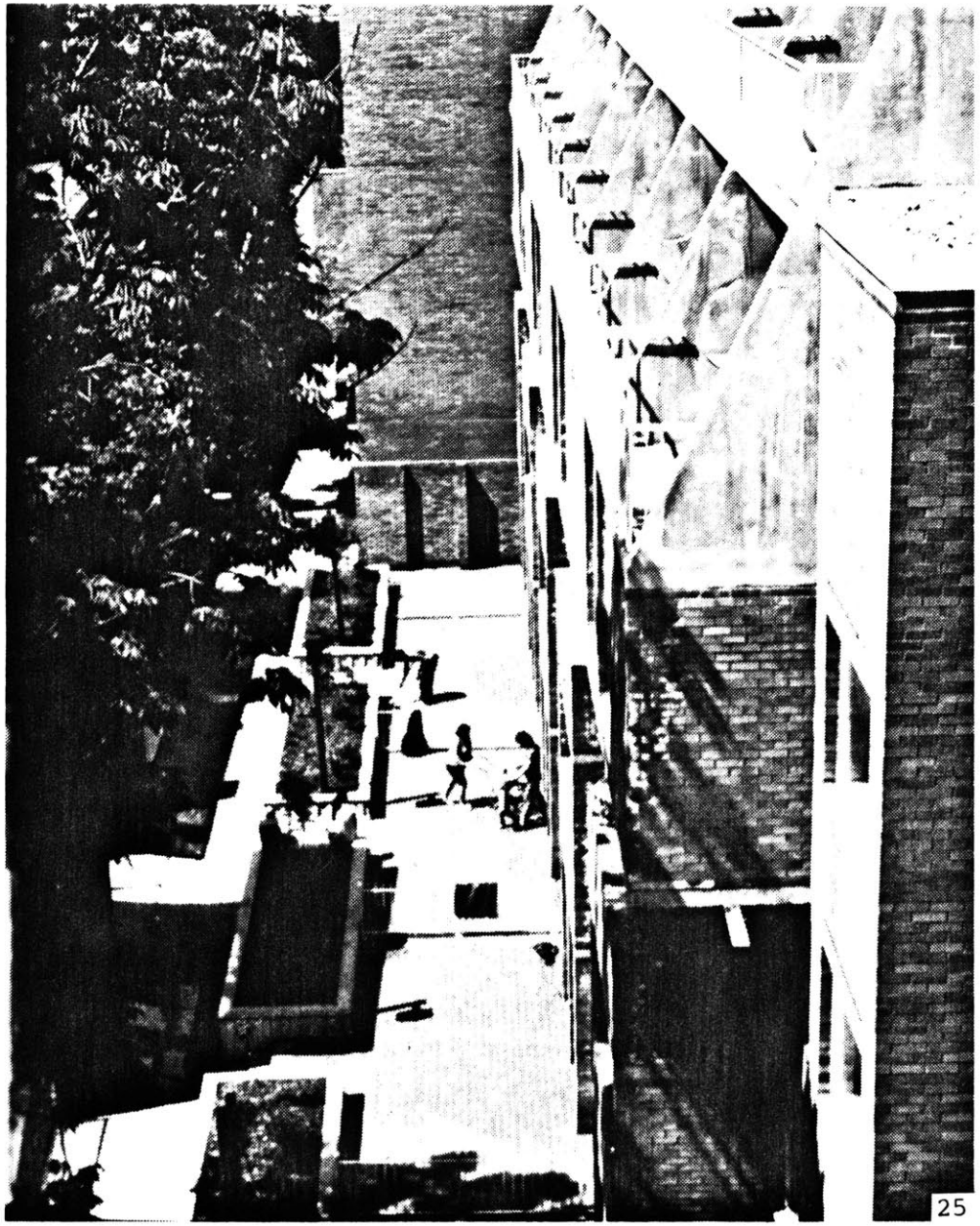
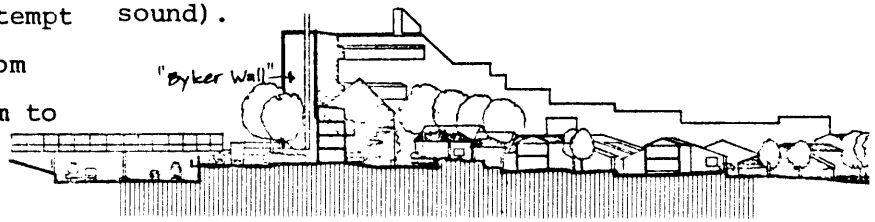


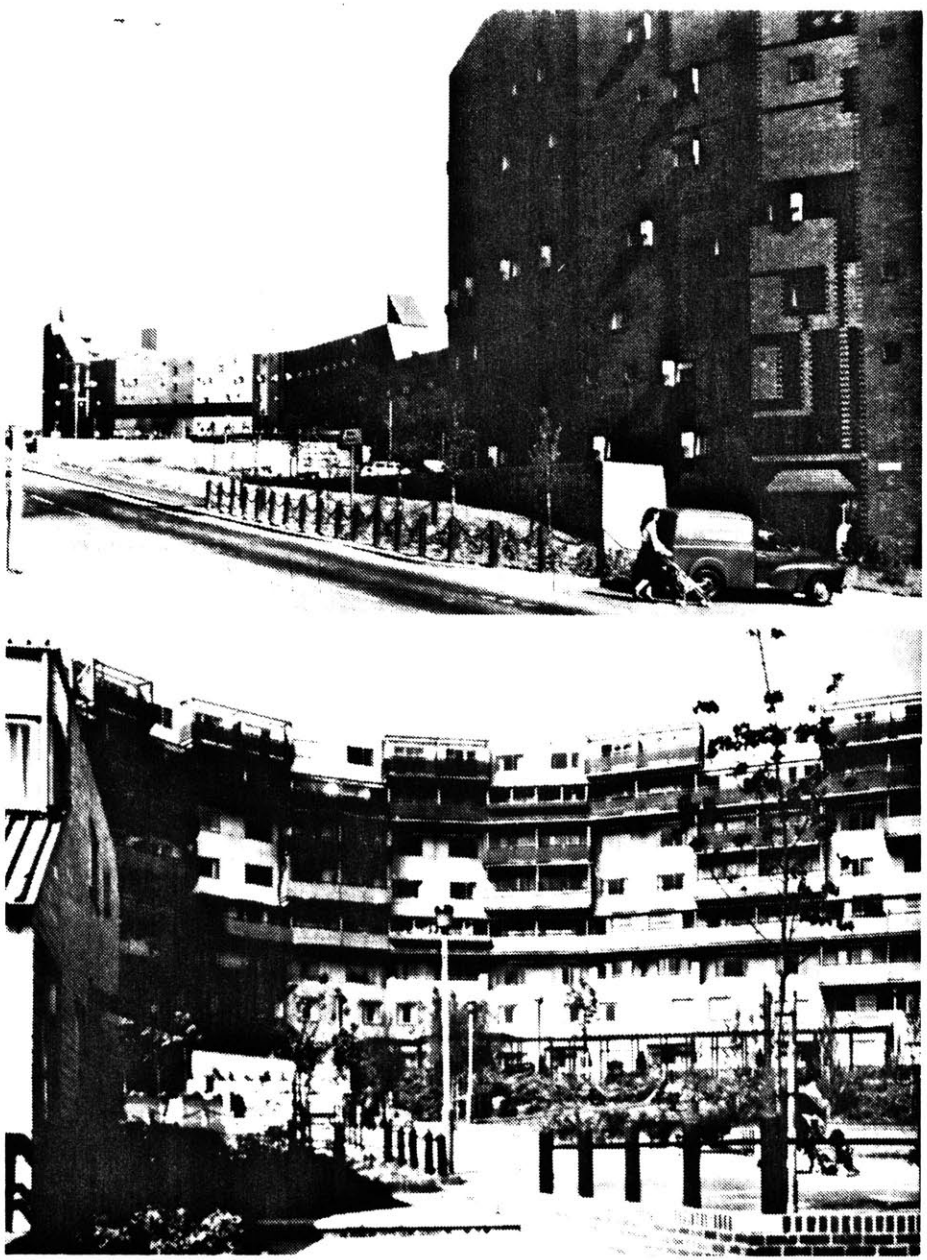
As a counter example, the van Eyck housing (pictured on page 34) has balconies which occur outside the building's enclosure. Although public access is regulated because these balconies occur on upper levels, there has been no attempt to control vision of the balconies from the public domain. The balconies seem to be claimed, visually, by the public, which discourages their inhabitation. Thus, if any one of the factors of publicness is unobstructed before it reaches a building's enclosure, the inhabitants will be less likely to shape the area outside the enclosure.

Some site-related problems may indicate that an enriched interface zone is neither possible nor desirable. For example, at Ralph Erskine's Byker housing, where menacing traffic noise is generated continually from an adjacent motorway, the facade of the building which faces the motorway is designed to be a container-like dividing wall. On the other side, the quiet side, the interface was developed to support activity. The design not only made this site liveable but also sheltered the rest of the community from the menacing noise. (The entire building acts as an interface between the motorway and the community by regulating sound).



A building's interface zone must be designed with careful regard for site-specific problems. The examples presented in this catalogue are intended to show formal possibilities which allow the interface zone to be a part of the domain shaped by the inhabitants. But it is ultimately the designers' responsibility to decide how these forms may be appropriate for the design of a building in a different context.

Through shaping the public/private interface, inhabitants take part in shaping a bit of the city, and contribute to its aliveness.



12.

enclosure

opening

These diagrams show how physical elements effect the factors of climate and publicness, and clarify the terminology employed in the catalogue.

1. Enclosure
2. 2A. Opening
3. 3A. Partial Enclosure

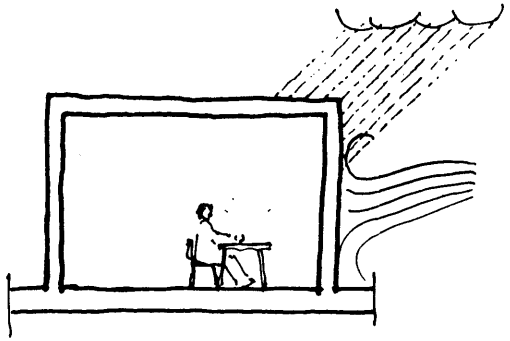
Transparency

4. Opaque
5. Translucent
6. Transparent
7. Two-way

Configurations

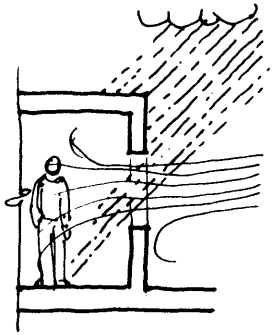
8. Closure
9. Exposure
10. Partial Closure

11. Cover
12. Partial Cover



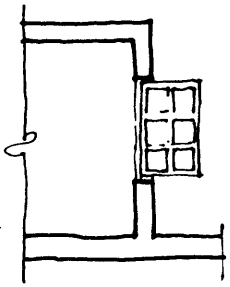
1. ENCLOSURE

An enclosure is any material through which moisture or precipitation can not penetrate.



2. OPENING

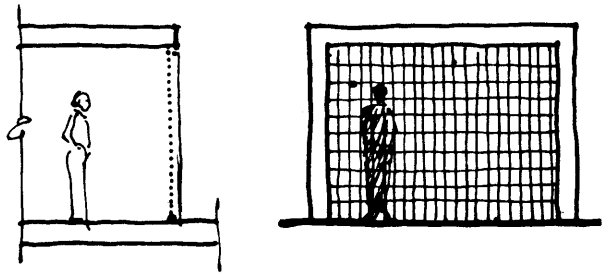
An opening is an interruption, a hole in an enclosure. It may admit all factors, except access which is regulated by the size and location of the hole.



2A.

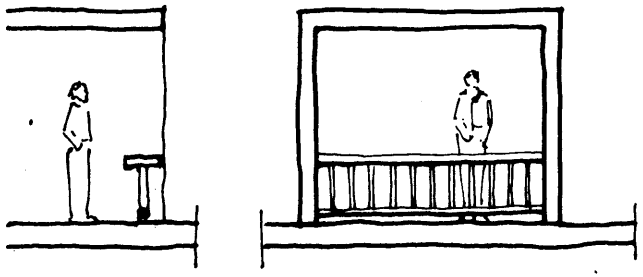
Operable glazing, if open is considered an opening, and when closed tightly is considered part of the enclosure.

partial enclosure



3. PARTIAL ENCLOSURE

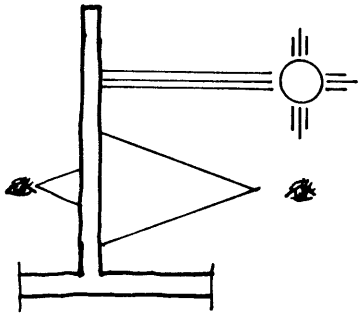
Regulation of elements depends on size of openings in enclosure. Window screens have many small openings to permit air movement but not access.



3A. PARTIAL ENCLOSURE

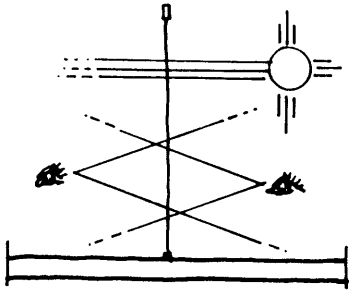
Another variation showing openings of various sizes. This diagram implies access constraint.

transparency



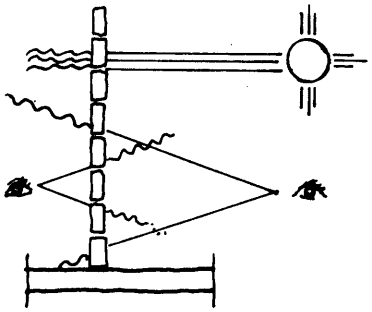
4. OPAQUE

Blocks sunlight and vision



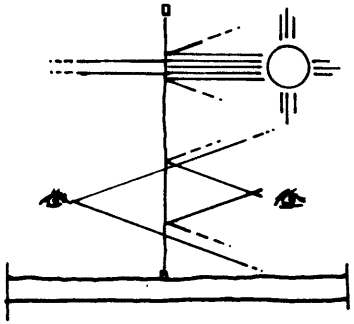
6. TRANSPARENT

Sunlight and vision permitted.



5. TRANSLUCENT

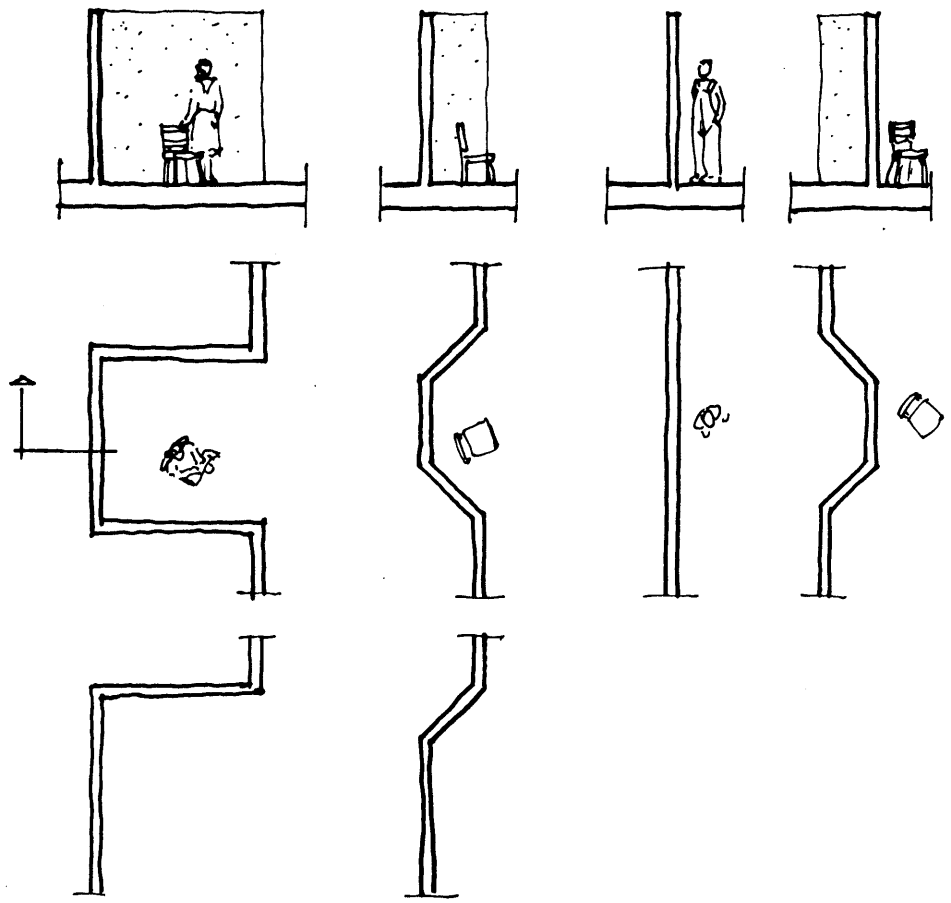
Sunlight and vision permitted but diffused



7. TWO-WAY

Reflects most sunlight and vision from outside but permits vision out from inside.

configuration: closure

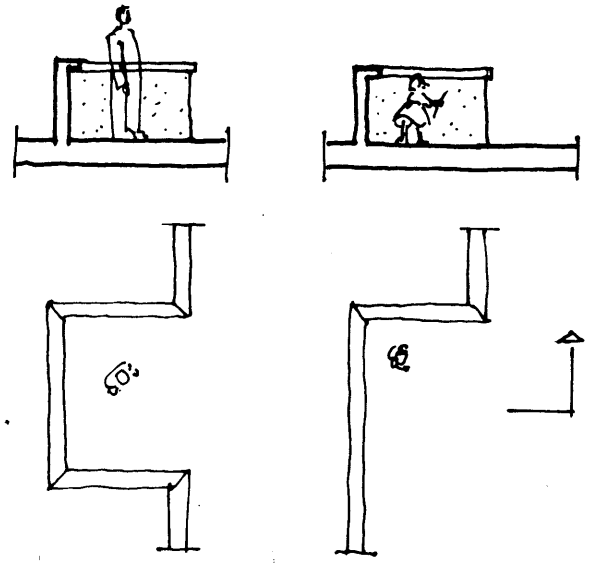


8. CLOSURE

Closure is a configuration which defines a use space. It suggests the factors of climate and publicness may be regulated.

9. EXPOSURE

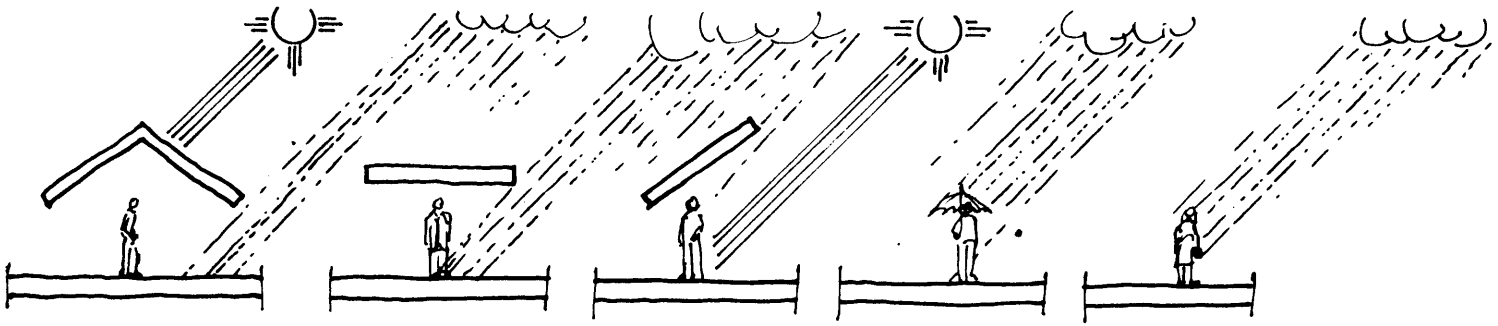
This configuration defines a space which is generally more public in nature because the space is less protected from factors of climate and publicness.



10. PARTIAL CLOSURE

The lower the structure, the less closure it provides. Partial closure for an adult may be closure for a child.

configuration: cover



11. COVER — 12. PARTIAL COVER — 9. EXPOSURE

Cover regulates factors from above: sunlight and precititation. The more steeply sloped the form (the greater its vertical component) the more potential it has to provide closure also (eg. a tee-pee provides closure and cover with one steeply sloping form).

Open to factors of climate and publicness.

In this housing in Amsterdam, designers A. van Eyck and T. Bosch have created specific vertical zones of an expanded interface, retaining a generally flat building surface as suggested by the context. Within these three-dimensional vertical zones is the inhabitants' complete range of choice for connection to the factors of climate and publicness.

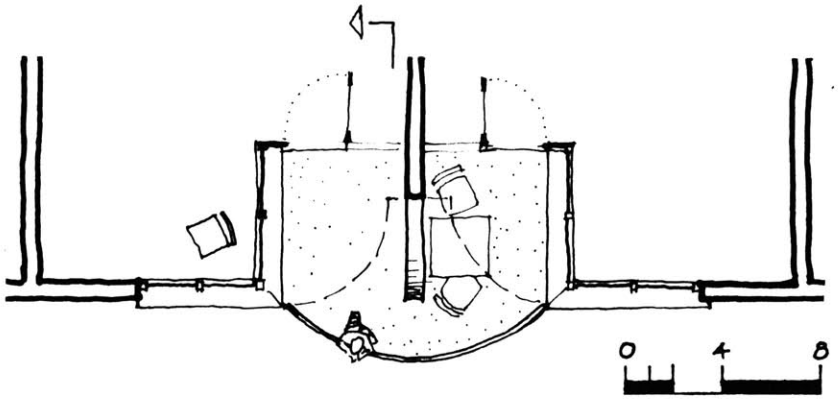
transparency of enclosure

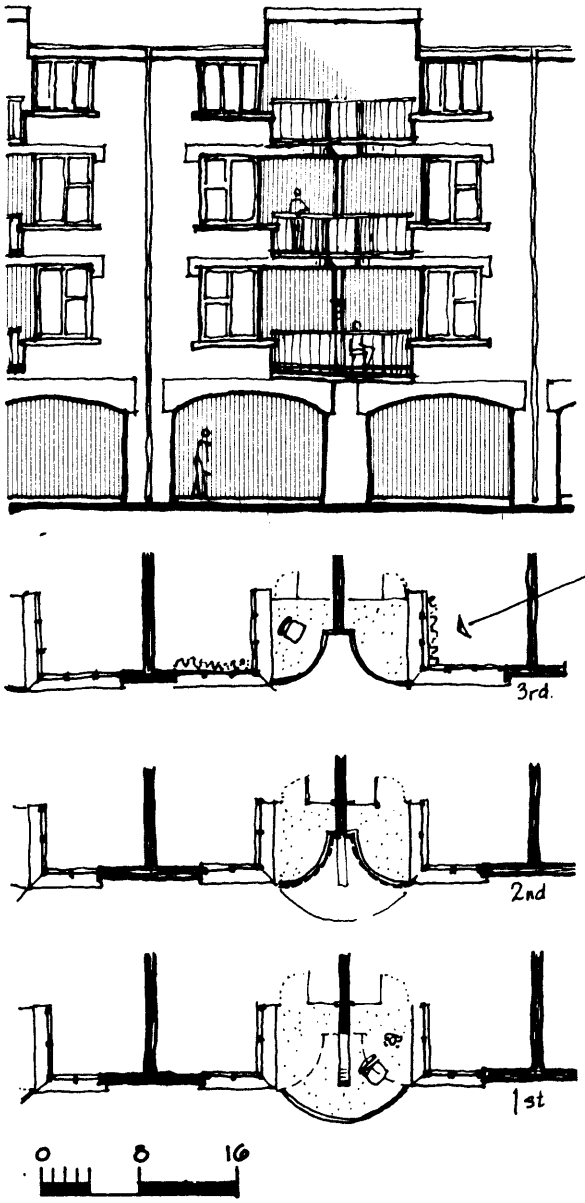
use space outside the enclosure.

13.

Outside the enclosure, balcony offers conditions of closure and exposure.

Balconies invite use because they are sized large enough for a table and chairs and they are not overly exposed to vision from the public domain.

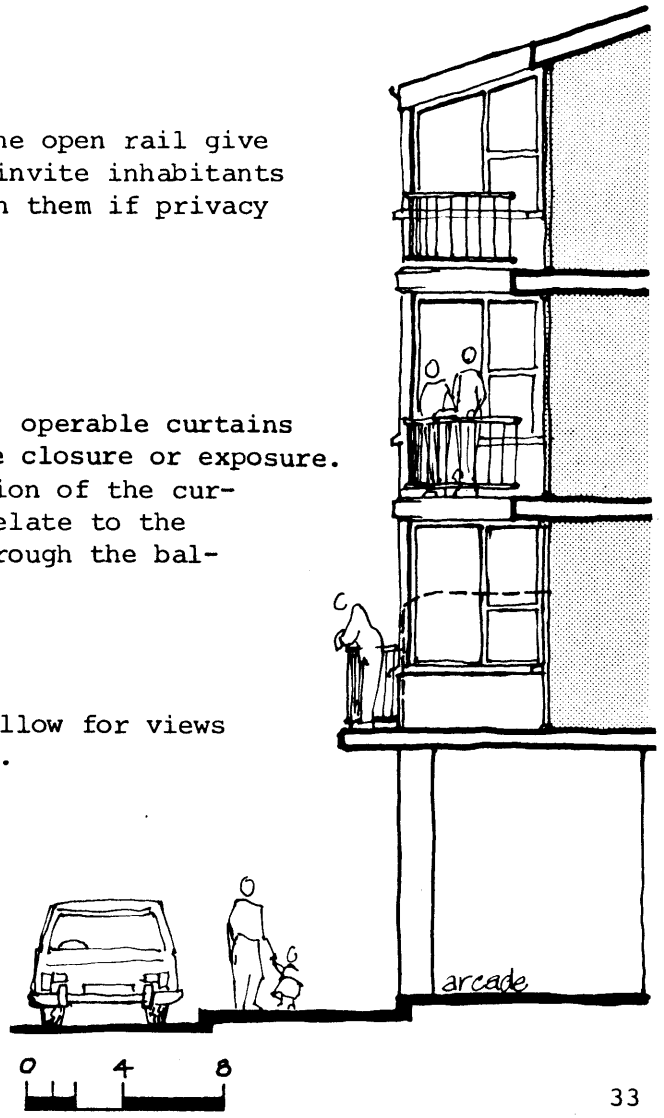




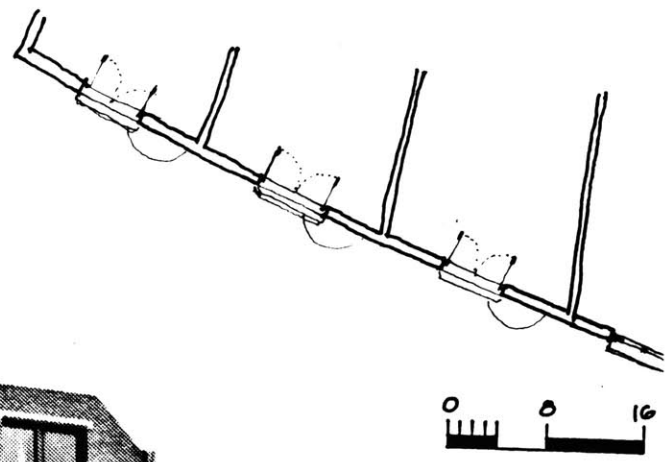
The vertical bars of the open rail give no visual privacy yet invite inhabitants to weave fabric between them if privacy is desired.

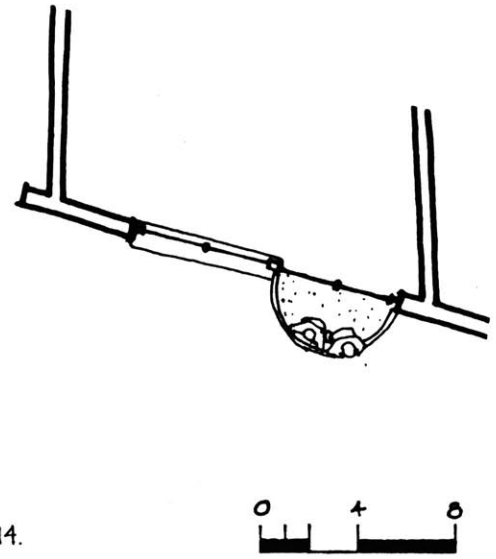
Inside the enclosure, operable curtains allow this area to have closure or exposure. Depending on the position of the curtains, this area may relate to the outside directly or through the balcony.

Projecting balconies allow for views up and down the street.

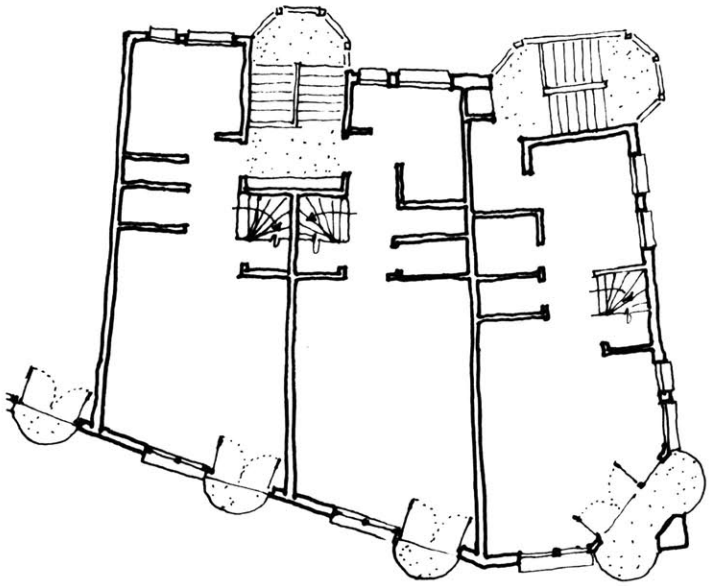


This project also by van Eyck and Bosch fails to establish the wide range of relationships between inside and outside seen in the vertical zones of the previous example. Except at the corner unit, each window blankly faces the street. The projecting balconies provide no closure, no place to be protected from public view.



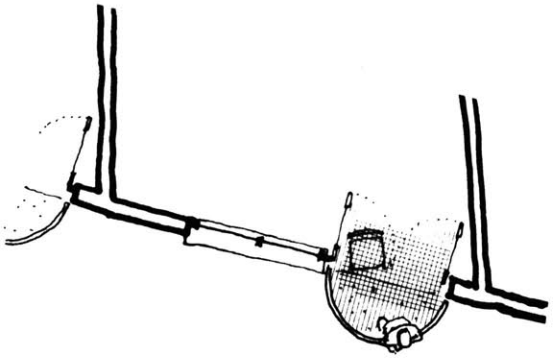


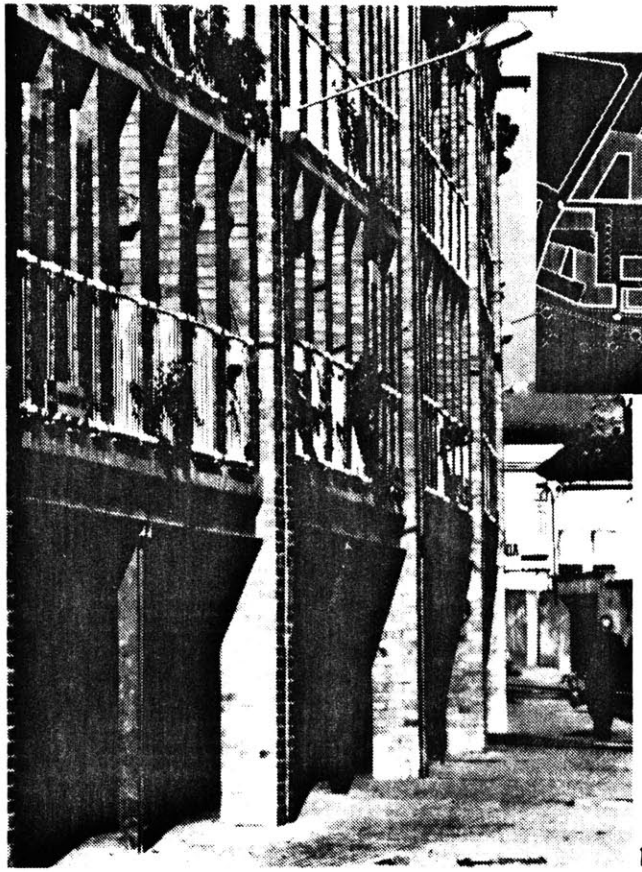
14.



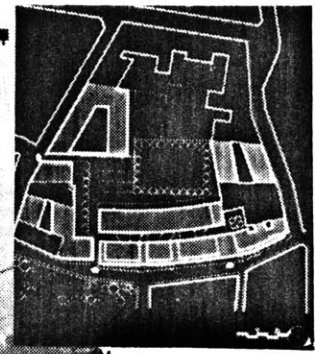
Balconies are too small and too exposed for activity and also seem too insecure to be occupied by personal belongings.

The operable elements, the doors begin to extend the balcony into the dwelling, defining an intermediate space.



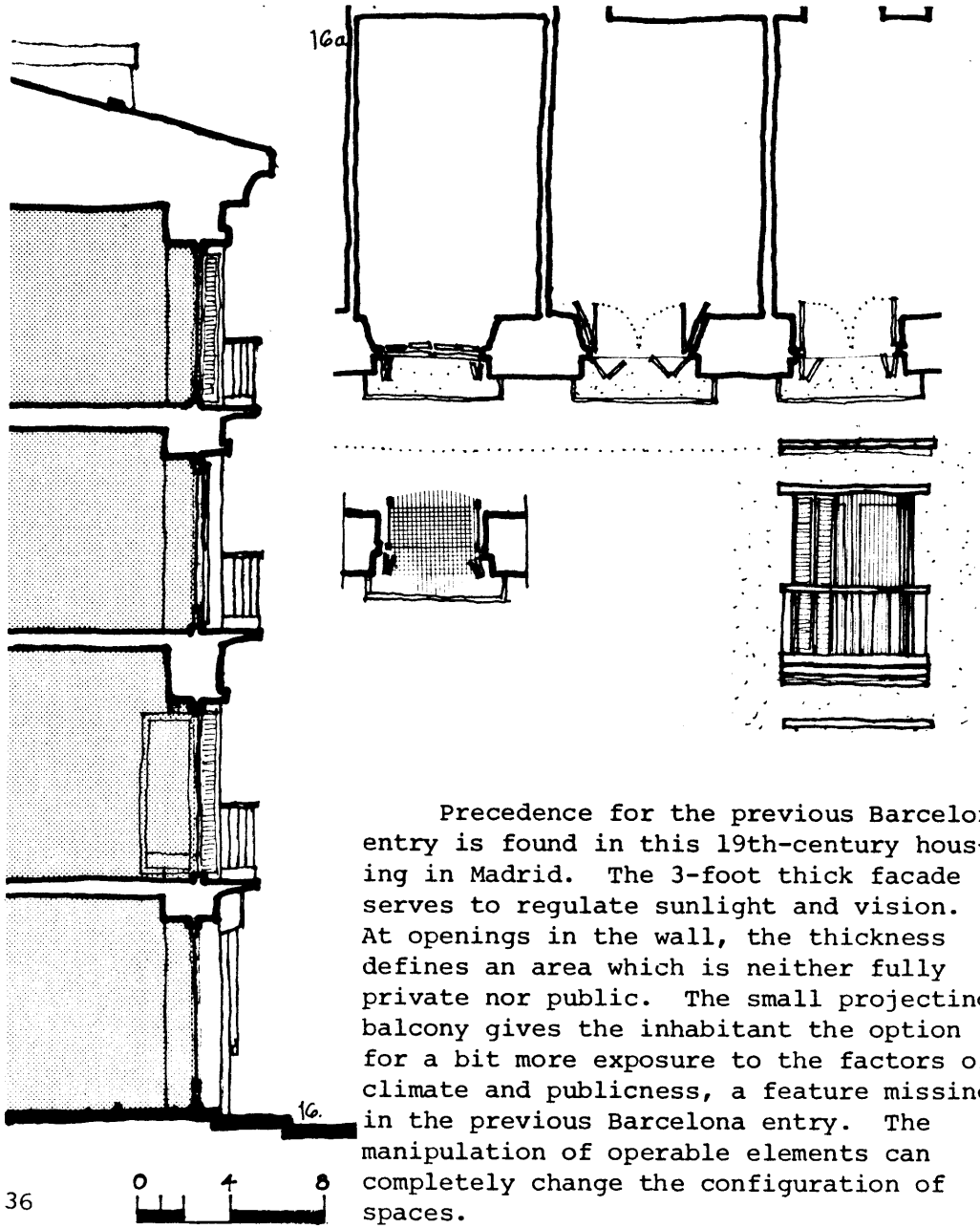


15.



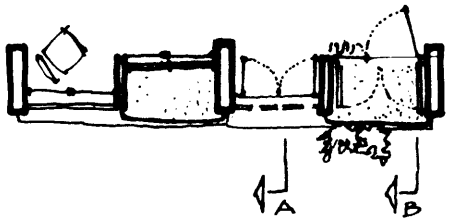
15a.

The fixed vertical elements in this housing in Barcelona create a rather uniform three dimensional zone which, because of its depth, is effective in regulating vision and sunlight. The vertical elements also create a series of small, protected balconies about four feet wide. (Information extrapolated from ground floor plan; unfortunately, no unit plans are available, thus line of enclosure is unknown).

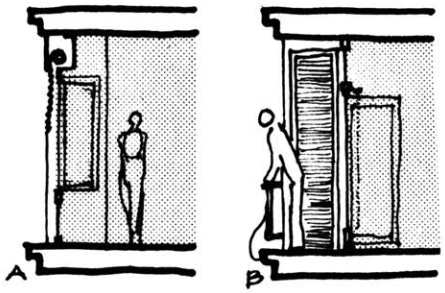


Precedence for the previous Barcelona entry is found in this 19th-century housing in Madrid. The 3-foot thick facade serves to regulate sunlight and vision. At openings in the wall, the thickness defines an area which is neither fully private nor public. The small projecting balcony gives the inhabitant the option for a bit more exposure to the factors of climate and publicness, a feature missing in the previous Barcelona entry. The manipulation of operable elements can completely change the configuration of spaces.

In Florence is another modern variation of the thick wall interface, though here, the three dimensional territory is defined by alternating bays and balconies. Unfortunately, the tight dimensions of the bays and balconies discourage activity (a pair of doors at the balcony would ease this a bit).



On the other hand the variety of operable elements, both outside and inside the enclosure, indicates to the public the inhabitant's preferences for their relationship to the factors outside. However, these operable elements in their various positions define spaces which are no different than those defined by the fixed elements.



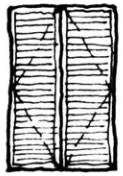
17.

OPERABLE ELEMENTS

Shutters

roll-type

Casement, pair open outward

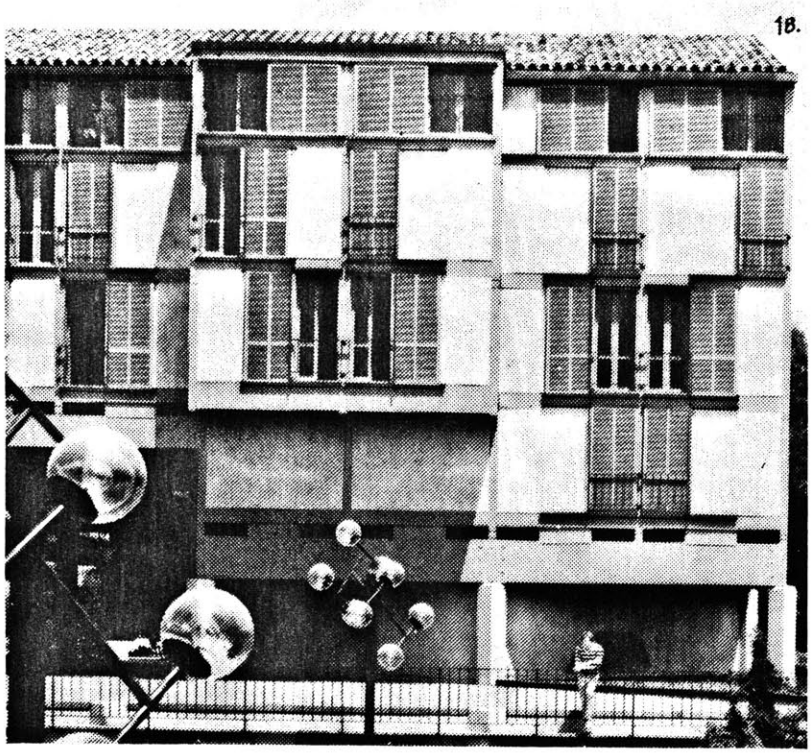


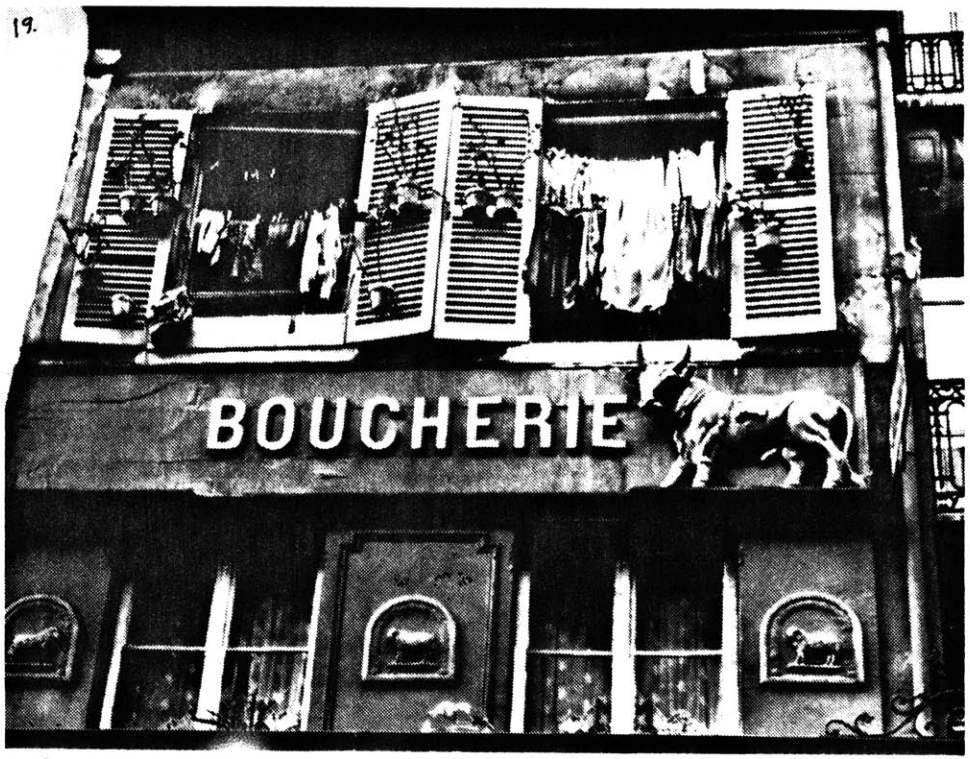
Operable transparencies.

Casement, pair, open inward.

Glazed door opens inward

Curtains on door or window


18.



19.

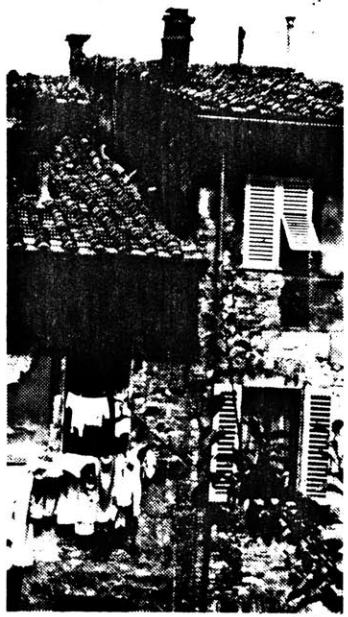
Operable Elements

Outside the Enclosure

Operable elements allow inhabitants to vary their relationship to the factors of climate and publicness. To the public they are physical indicators of inhabitants' needs or personal preferences. Over time the varying positions of these elements indicate the rhythms and cycles of weather and cultural habits.

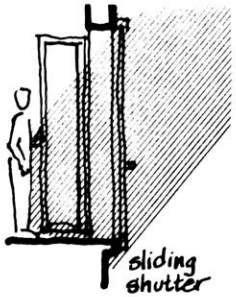
Elements which project out from a building's surface protect an opening from sun or rain while permitting ventilation. Moreover, projecting elements have a greater visual impact to the public than an element which remains generally flush with the building's surface. Projecting elements also define a small inbetween space at an opening in the enclosure.

20.



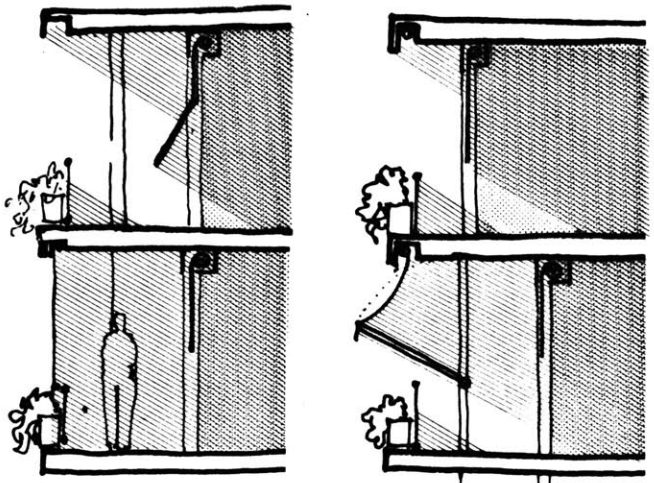
21.

22.



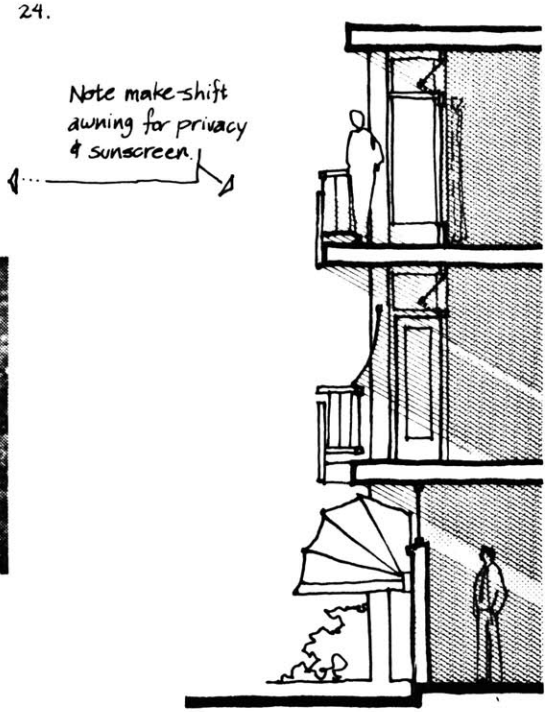
Sliding shutters (opposite) provide a more limited range of relationships between the interior and the external factors, and have less visual impact to the public than projecting shutters. In various positions, they also fail to define a space at the opening.

22a.



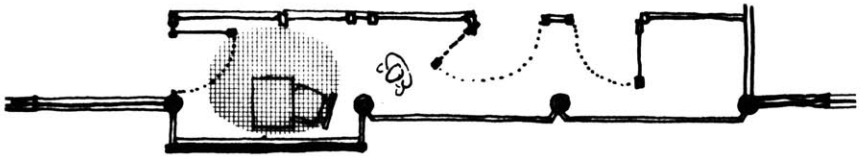
The differing positions of operable elements (awnings and shutters) and moveable elements (planters) bring this otherwise mundane building to life. They also effectively regulate vision and western sun. The intermediate space created by the combination of operable and fixed elements is large enough to invite activity. The inhabitants can choose from configurations of cover, closure or exposure.

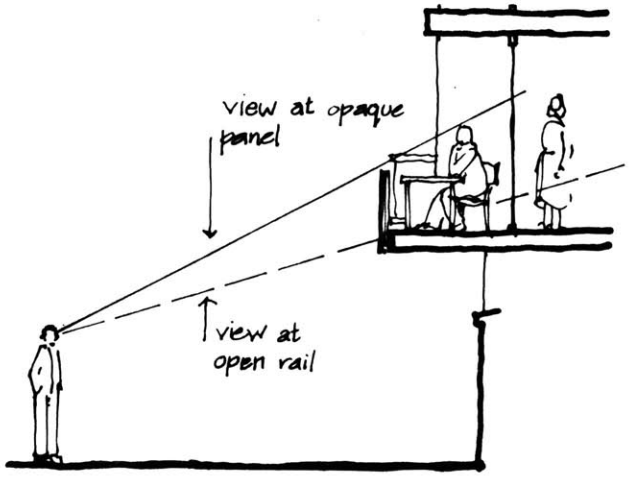
23.



In the previous entry (opposite) planters and foliage screen vision from the balconies and privacies beyond. In this building, fixed opaque panels on the rails serve the same purpose. But because the plants require more careful maintenance, they indicate inhabitants' care or neglect (or choice not to grow plants at all).

The opaque panels occur where the balcony expands to a more generous, useable dimension.

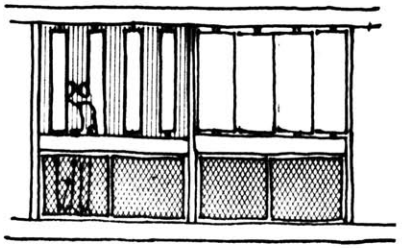


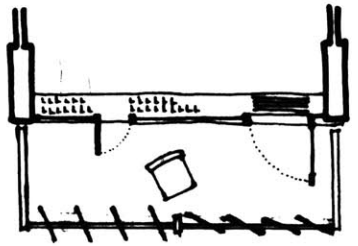


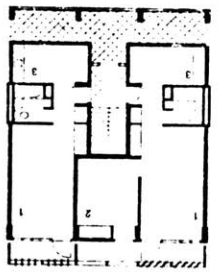
To perceive aliveness one must be close enough to distinguish the individual's contribution. Apartments on the first few floors have a greater potential to impact the character of the open spaces than apartments which are up six stories or more.

25.

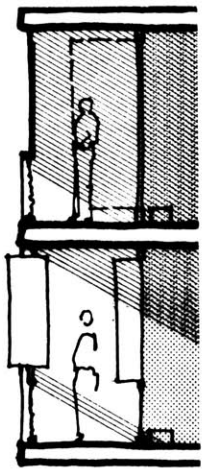
Balconies as a storage place indicate something about the inhabitant within.







The apartments on the first few levels at Peabody Terrace have a built in privacy problem which discourages inhabitation of the interface zone. Both windows and balcony rails are transparent to the floor slab. Inhabitants have no choice but to close the curtains (they did when I snapped photos) or place moveable objects behind the netted railing. The operable louvers don't alleviate this visibility problem.



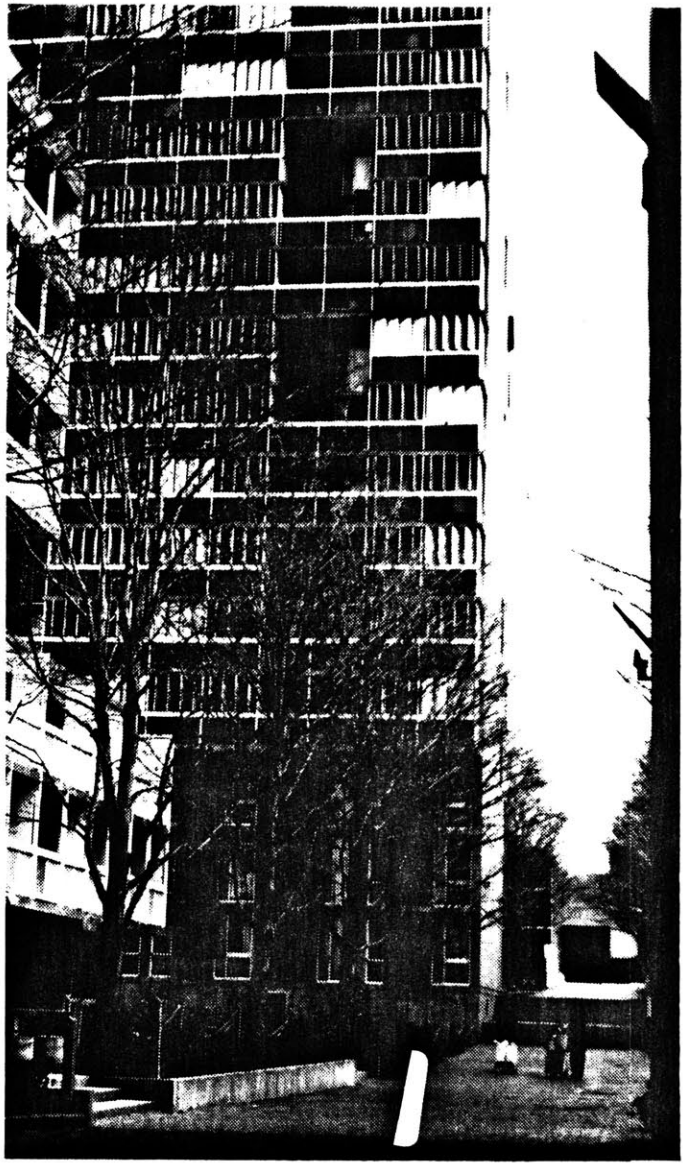
This section is designed to regulate western sunlight and to provide for views downward from in the apartments in the high rise buildings. It fails to address the privacy problem at lower levels.

The operable elements encroach on valuable balcony space.

The choice to retract or remove the louvers completely is not available, so the balconies are permanently caged. Caged balconies confine use

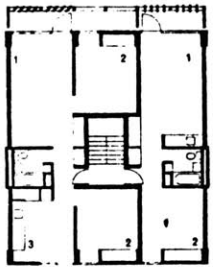
Because the louvers appear as endless repetitive elements on the facade, they become more of an architectural pattern than an indicator of inhabitants' choice.

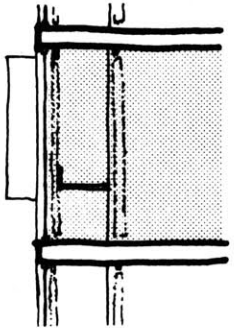
26.

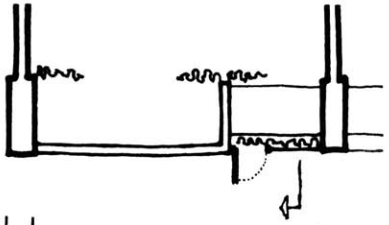


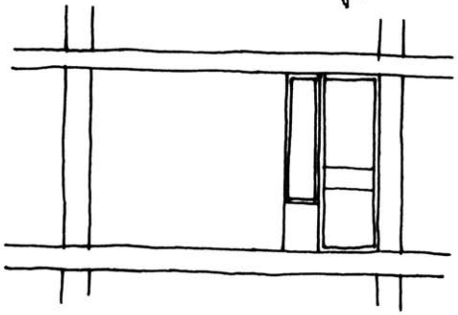
At Peabody Terrace the issue of management is a major deterring factor to the shaping of the public/private interface. If only the inhabitants could paint the louvers different colors or make greenhouses of the windblown balconies. Likewise because it is student housing, the transient inhabitants are less likely to take the time to make changes.

27.







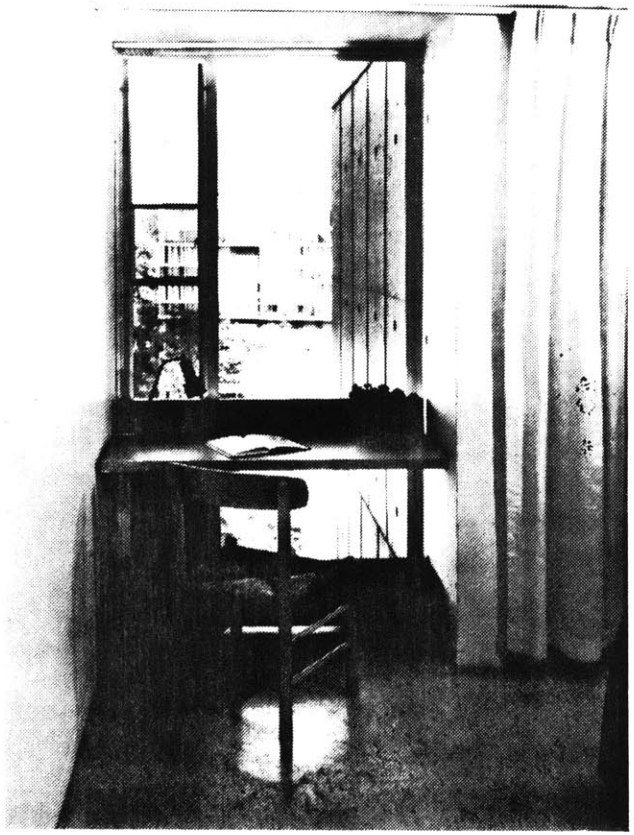


Ventilation occurs through opaque operable panels. All glazing is fixed except for the glazed balcony doors.

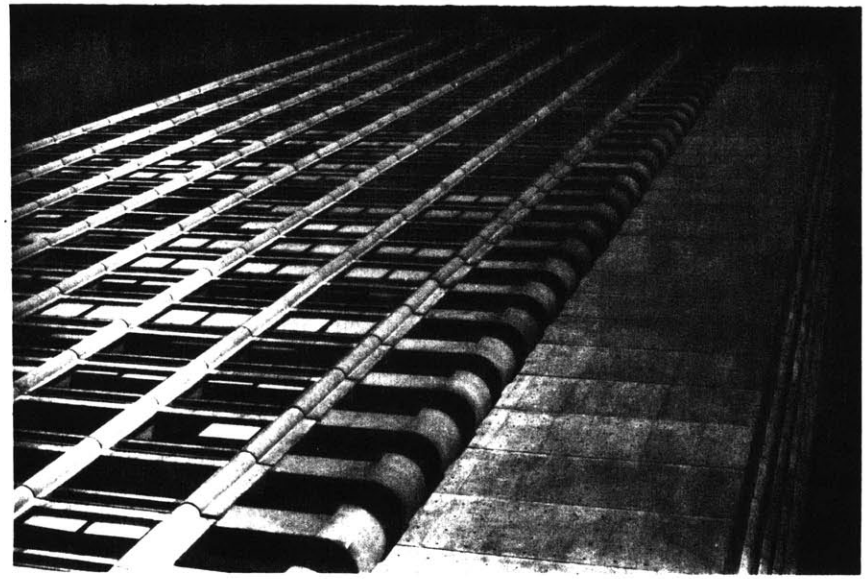
The configuration of fixed elements in the bedrooms creates spaces which divide the privacy from the outside.

The built-in desk consumes the only space where a connection to the outside is possible.

Two curtain tracks are provided, one at the window, and the other about 2-1/2 feet inside. This choice impacts the exterior appearance only in a minor way. The curtain tracks are often used as plant hangers and the awkward inbetween space becomes a display case, while regulating vision too (see page 23).



28



29.

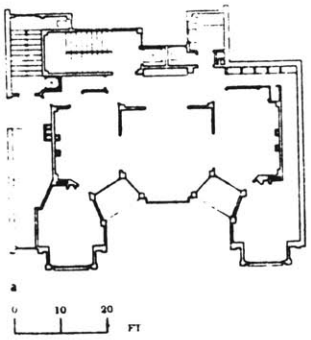
When regulation of the factors of climate and publicness occurs entirely inside the building's enclosure, or when undifferentiated physical elements and spaces are repeated endlessly, the resulting design subordinates the individual's impact (Harbor Towers).

The development of the interface zone is questionable in high rise buildings considering the accellerated wind conditions they create.

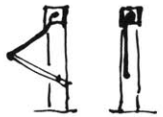
31.

This turn of the century building in Paris contains a wide range of interface conditions within one (luxurious) apartment. The inhabitant can modify his relationship to the external factors by choosing from a variety of fixed configurations or by manipulating the various operable elements.

The configuration of the plan provides the balconies with closure which may be desirable in a dense urban setting. Balconies which are too exposed inhibit use (see p. 34).



Flush or projecting shade.

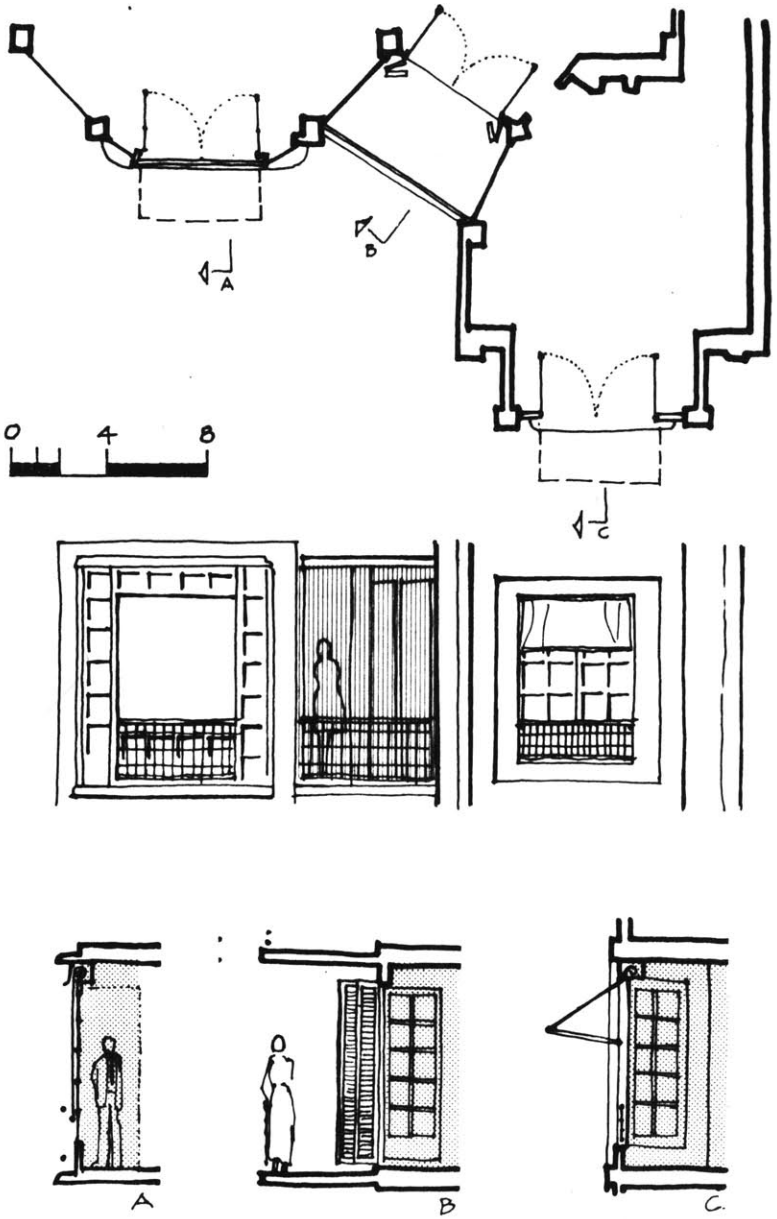


Bi-fold shutter at balcony

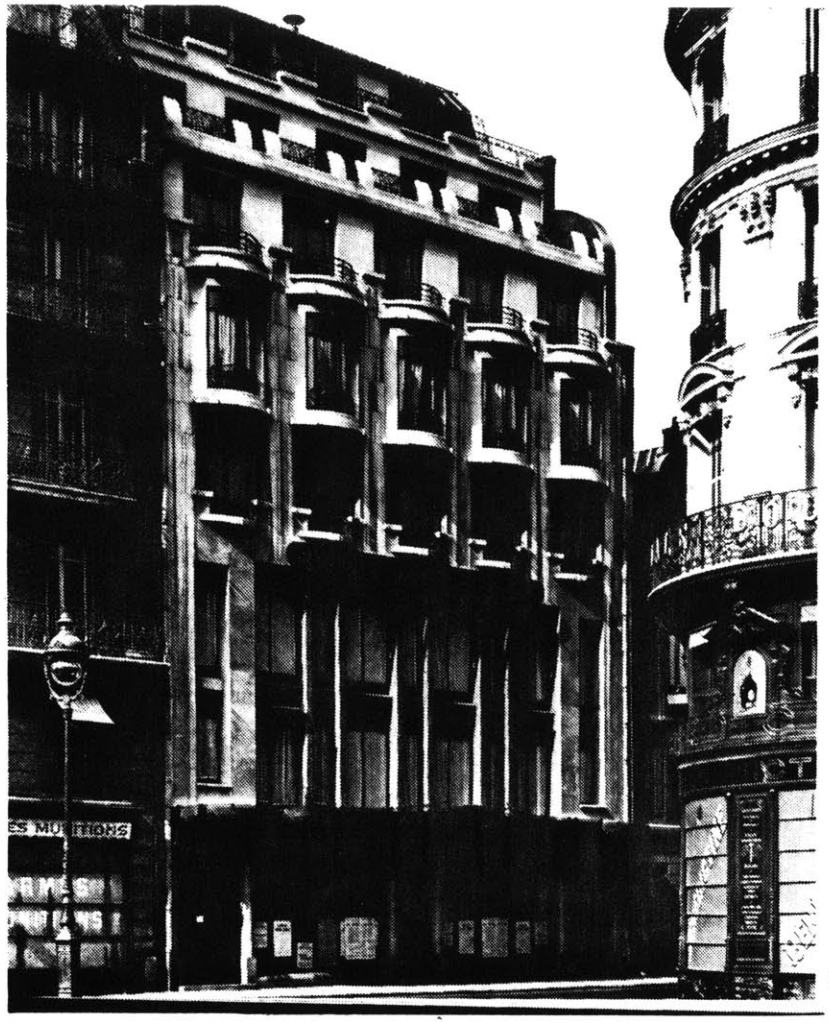
Pair of doors with grate

Pair of casement windows.

Full or half-height curtains.



Viewed from the public domain the variety of types and positions of the operable elements adds life to the streetscape. Compare this to similar urban buildings on the following two pages.



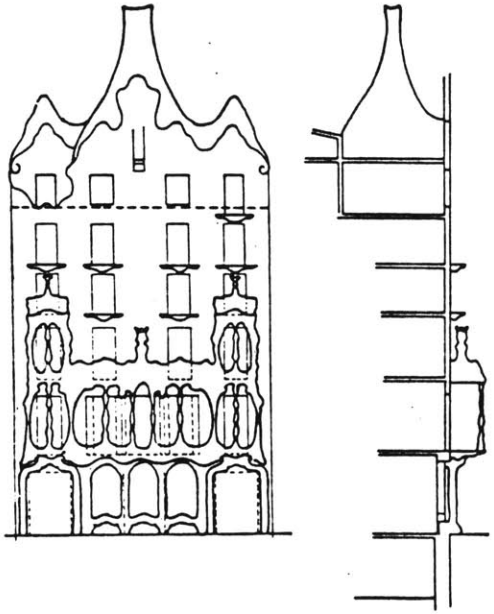
32.

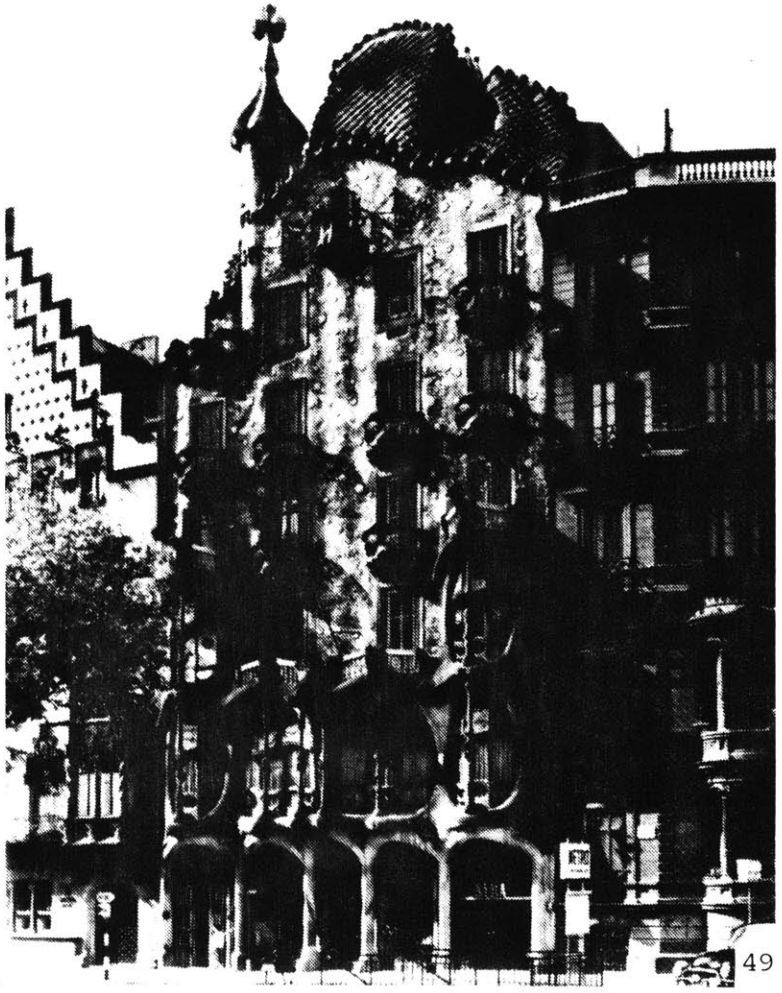
These two examples, both located in dense urban areas, illustrate how a building's public/private interface varies from street level to the roof. The building by Henri Sauvage (this page) is occupied on the lower levels by offices and on the upper levels by residences. The top two levels are stepped back to create balconies exposed to the sky. Because of their height above the street the balconies do not have problems of visual privacy. Exposure to sun may be enjoyed in privacy.

Although these two buildings may support some active use or inhabitation at the public/private interface, they have failed to invite more permanent modifications by inhabitants (an issue raised later).

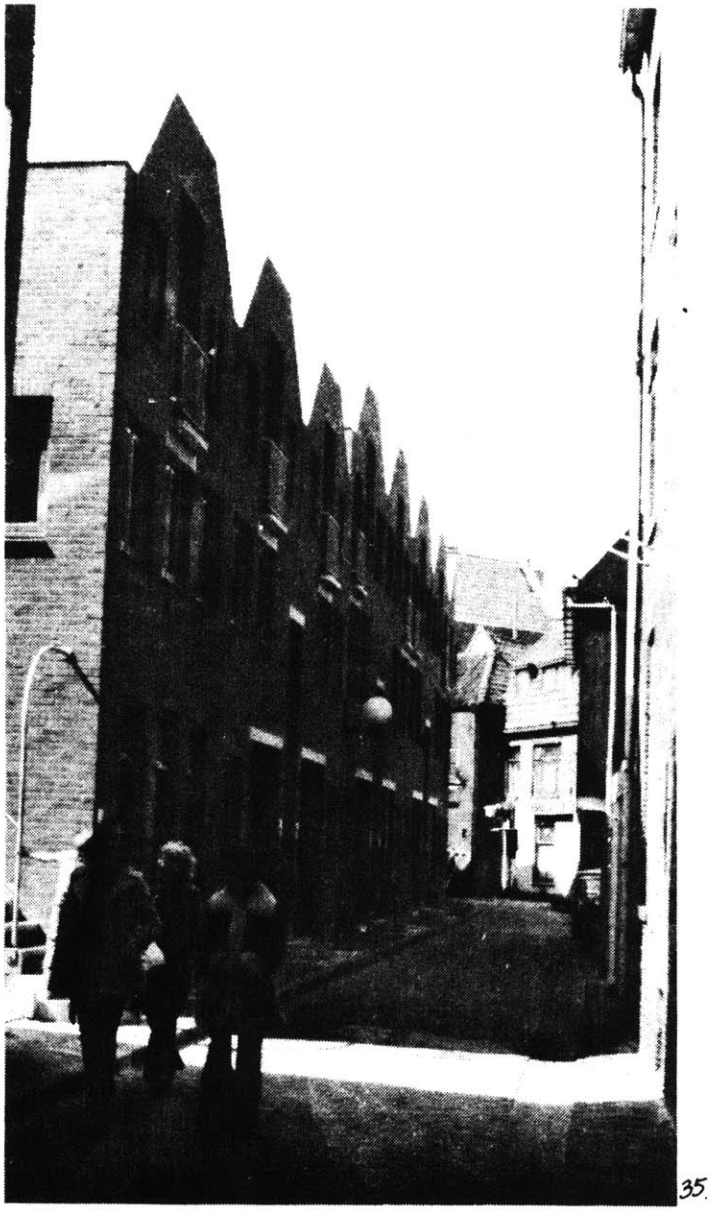
In Casa Batllo by Gaudi, the public/ private interface is developed primarily where visual and verbal connection to the street is possible: at the first few floors. The partial enclosure at the lower level balconies secures these intermediate spaces and invites use. At the upper levels, where connection to street activity becomes difficult, the balconies are smaller and more exposed, not inviting to sustained use.

The aliveness in the works of Gaudi is rooted in his own skill, sensitivity, and feeling echoed masterfully in the physical form. Unfortunately such buildings with an aliveness of their own are seldom constructed today due to trends in styles and economic constraints.





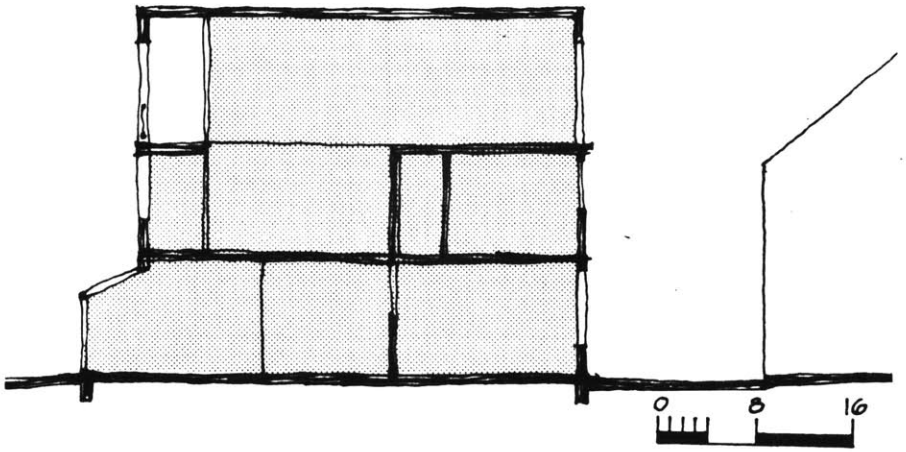
35.

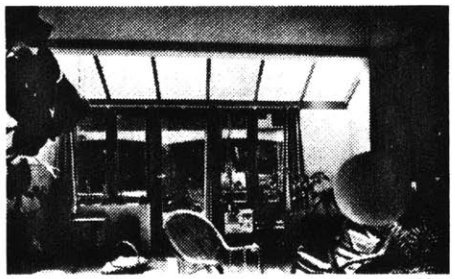


50 Street view of north elevation.

In some instances, the designer may find it inappropriate or undesirable to architecturally develop a 3-dimensional interface with the street. Two circumstances exemplified in the housing shown here bear out this notion (other circumstances are listed on page 22): 1. the architect's desire to model the design on the existing context, and 2. the orientation of buildings on the site.

The south side of this building (see photo) is designed to permit a varied connection between the dwelling and the semi-public walkway it faces. It has a greenhouse at ground level and more balconies at upper levels than occur on the north side.



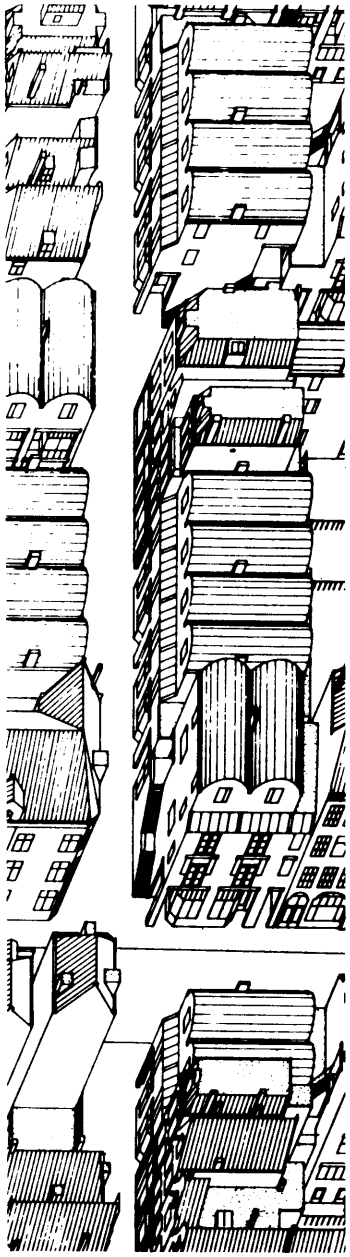


Interior view at ground-level greenhouse. 37.

View of south side. 36.

North elevation.

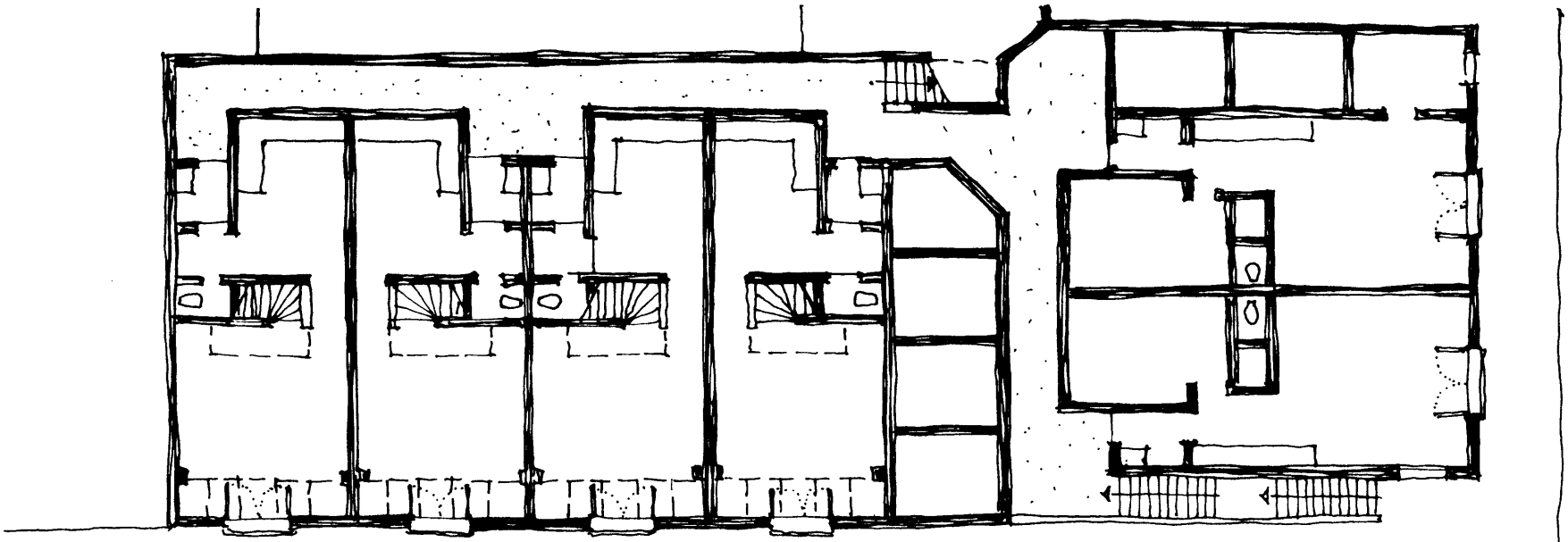
Facade curves



This configuration and placement of windows in the living area is designed to admit sunlight without sacrificing either the inhabitants' visual privacy or formal reference to the existing context.

Access to upper level dwellings occurs from a common walkway at the rear.

38a.



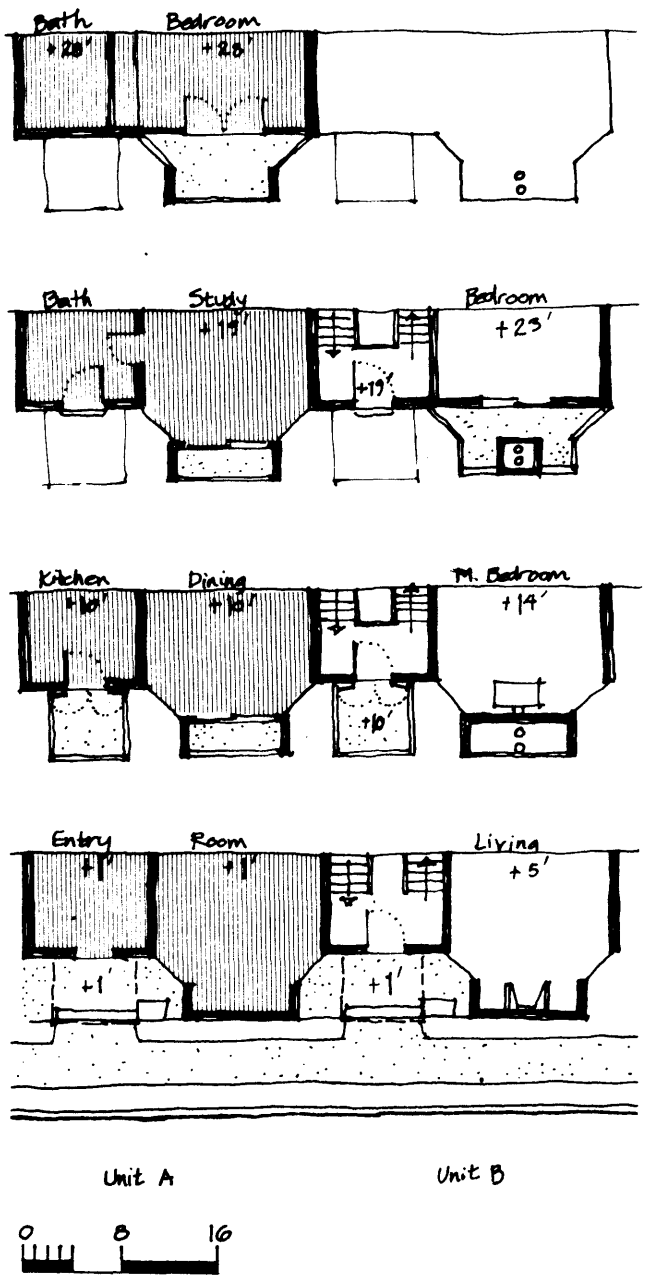
plan at 1st level above street.

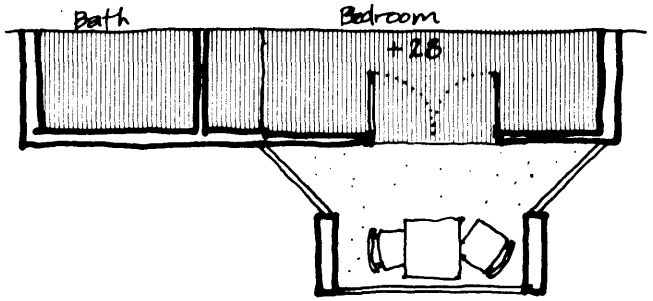
39.

39a.

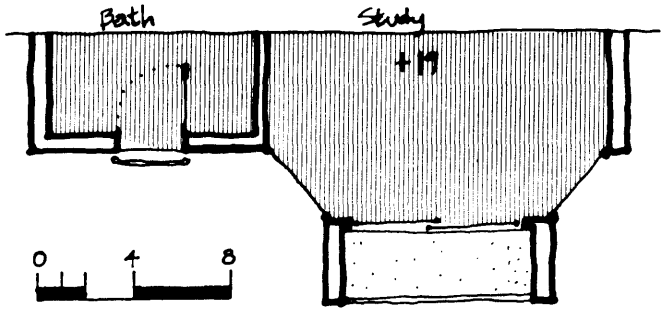
The 3-dimensional interface zone of these rowhouses invites inhabitation because each dwelling has a variety of use spaces between the privacy and the public street and square.

Each dwelling has a rather exposed cantilevered balcony (at +10') which serves as a use space and provides cover for the entry. Other balconies providing more closure are located as shown.



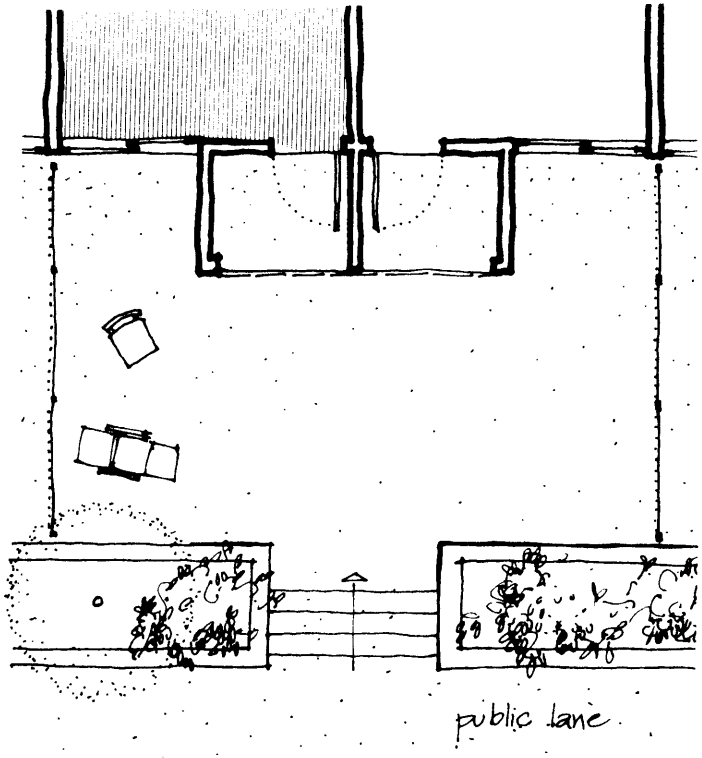


The top balcony at unit type A is best dimensioned to support activity.



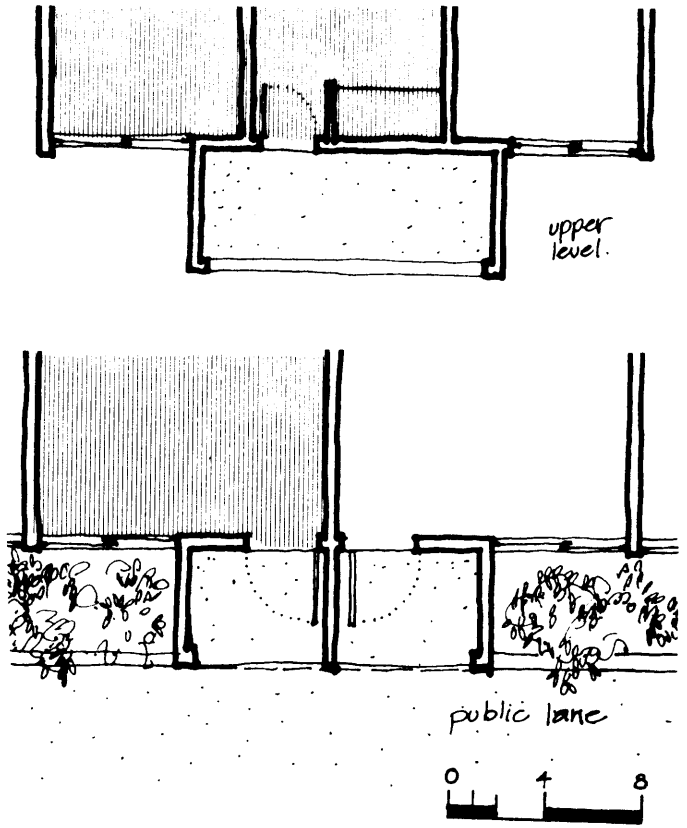
Depending on the way operable elements are manipulated inhabitants may have direct visual connection to the outside or a less direct connection through the balcony.

The "door in the facade" and the rail serve as a combination window and balcony. When the glazed door is open the interior area by the opening becomes a small balcony. When closed, the transparent door becomes a window.

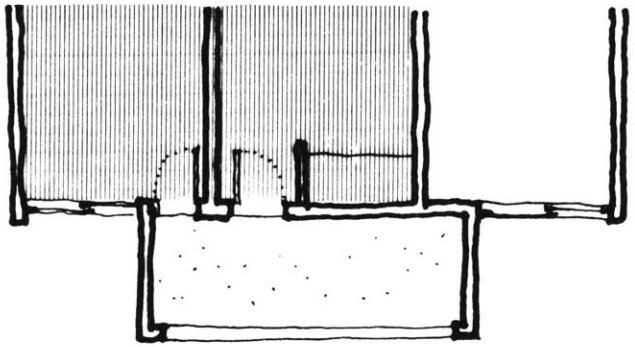


At the ground level the interface zone might involve the presence of a space between the public domain and a privacy. In this example, a level change and planters regulate public access and vision of these intermediate spaces and encourage inhabitants to claim and shape them. (This project is further illustrated on pages 24 and 25.)

Although the intermediate space belongs to two families, the territory to be claimed by each is not clearly defined. The two areas are implicitly differentiated by the path of access to the front doors.

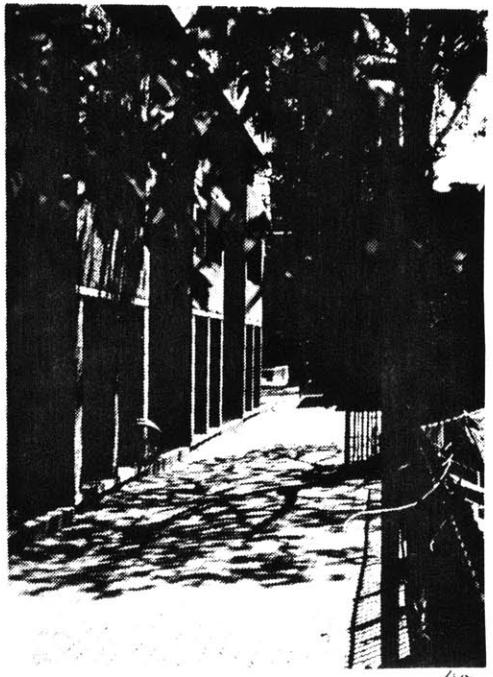


Where the site does not permit such generous intermediate spaces, the designer has maintained the planters as a privacy buffer between the public pedestrian lane and the privacy. The inhabitants can choose to maintain the foliage as densly as they wish as an additional way to regulate vision.

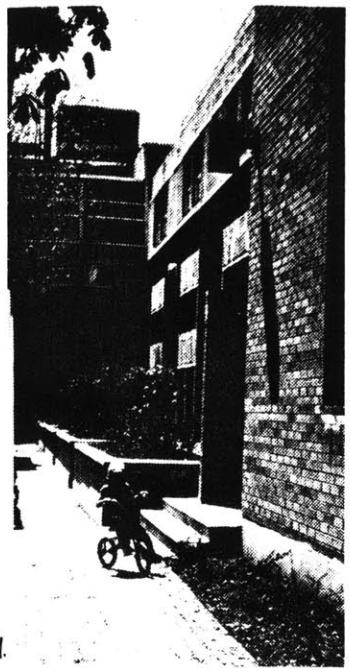


Suggested plan at upper level.

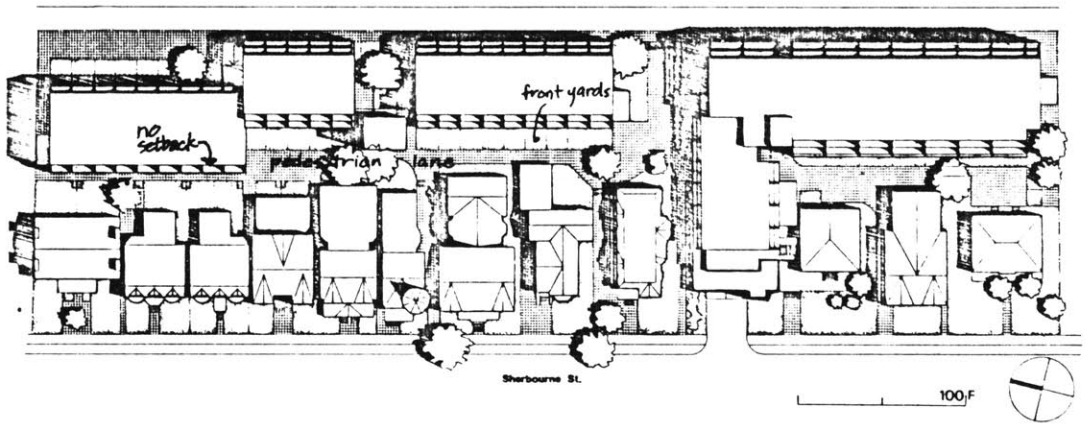
The balcony at the upper level is accessible by inhabitants only through one of the bedrooms. The balcony may be more inviting to use if both bedrooms had access to it, each as an alternative to the other.



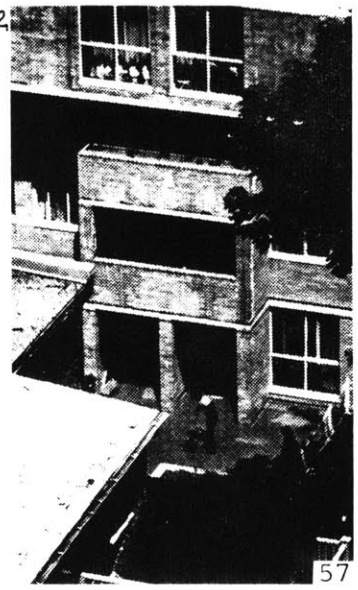
40.

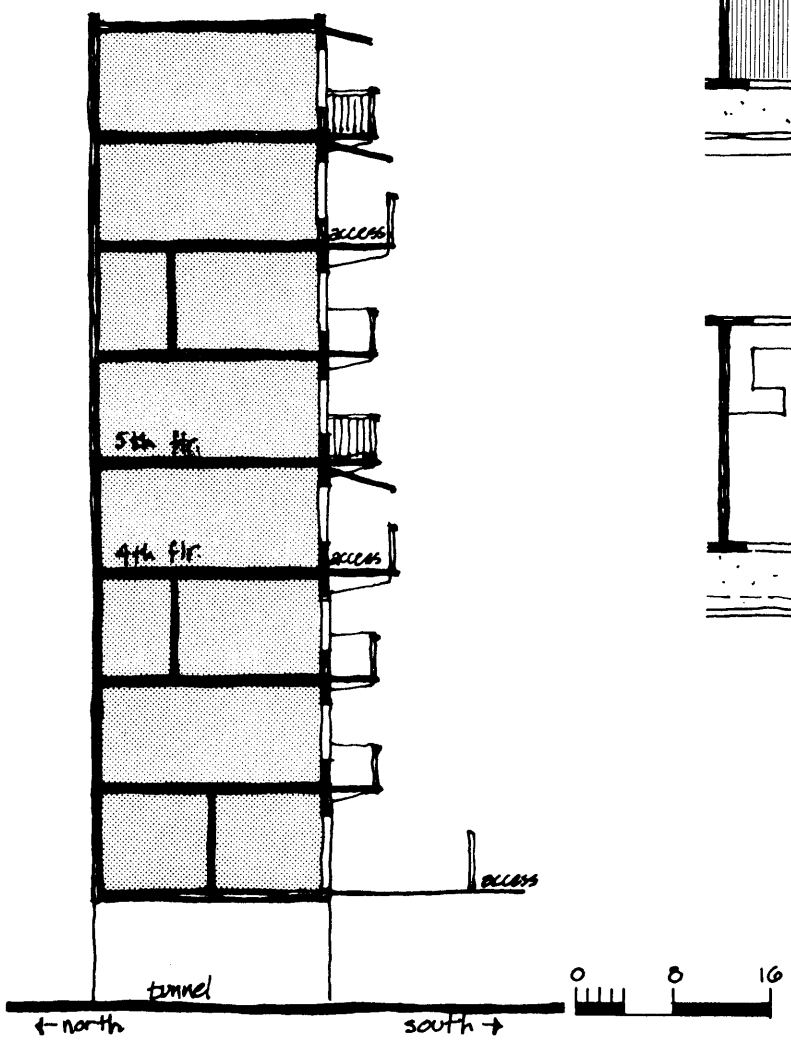


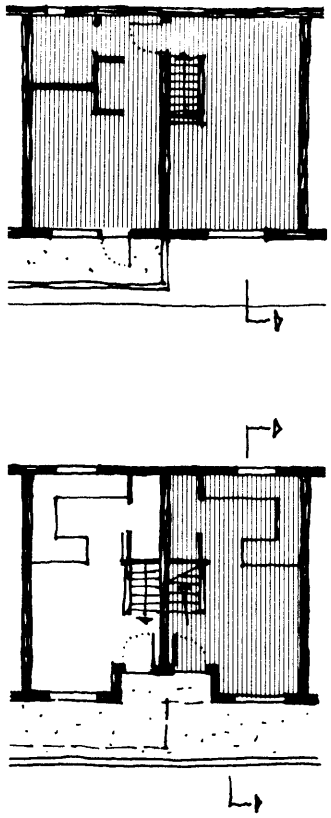
41.

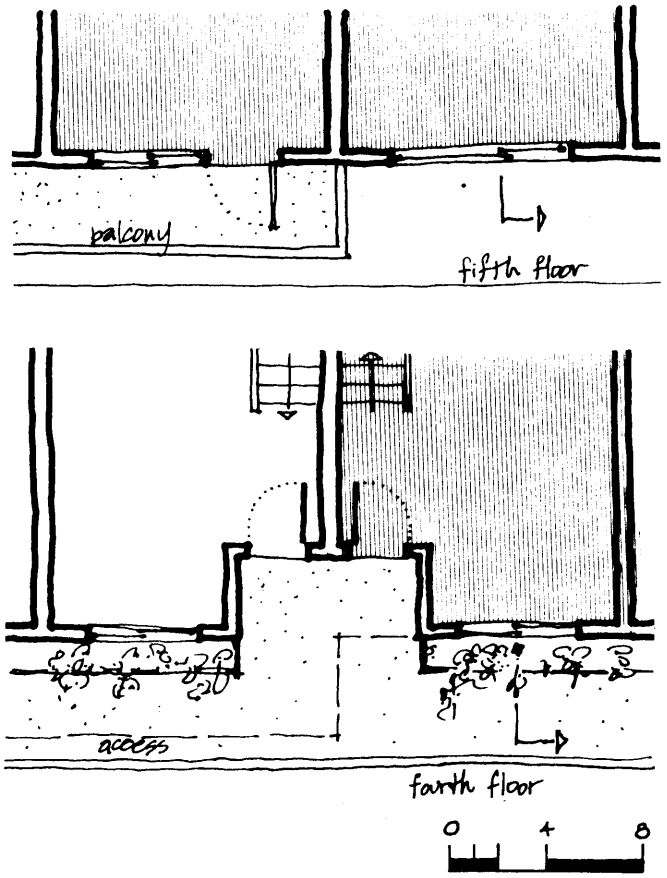


42.



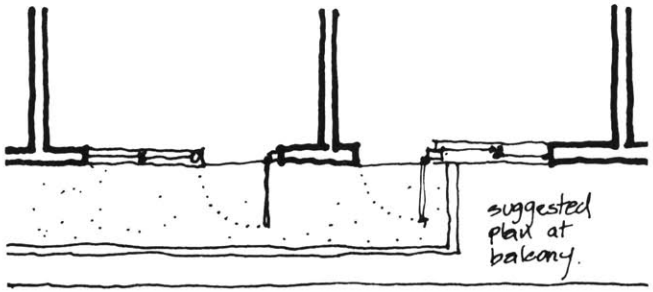






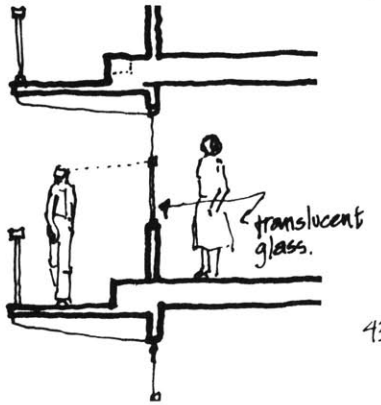
Access to the apartment at the Byker housing occurs from the continuous balconies every third floor. Because these access ways are semi-public, inhabitants would not be likely to shape them to suit their individual needs.

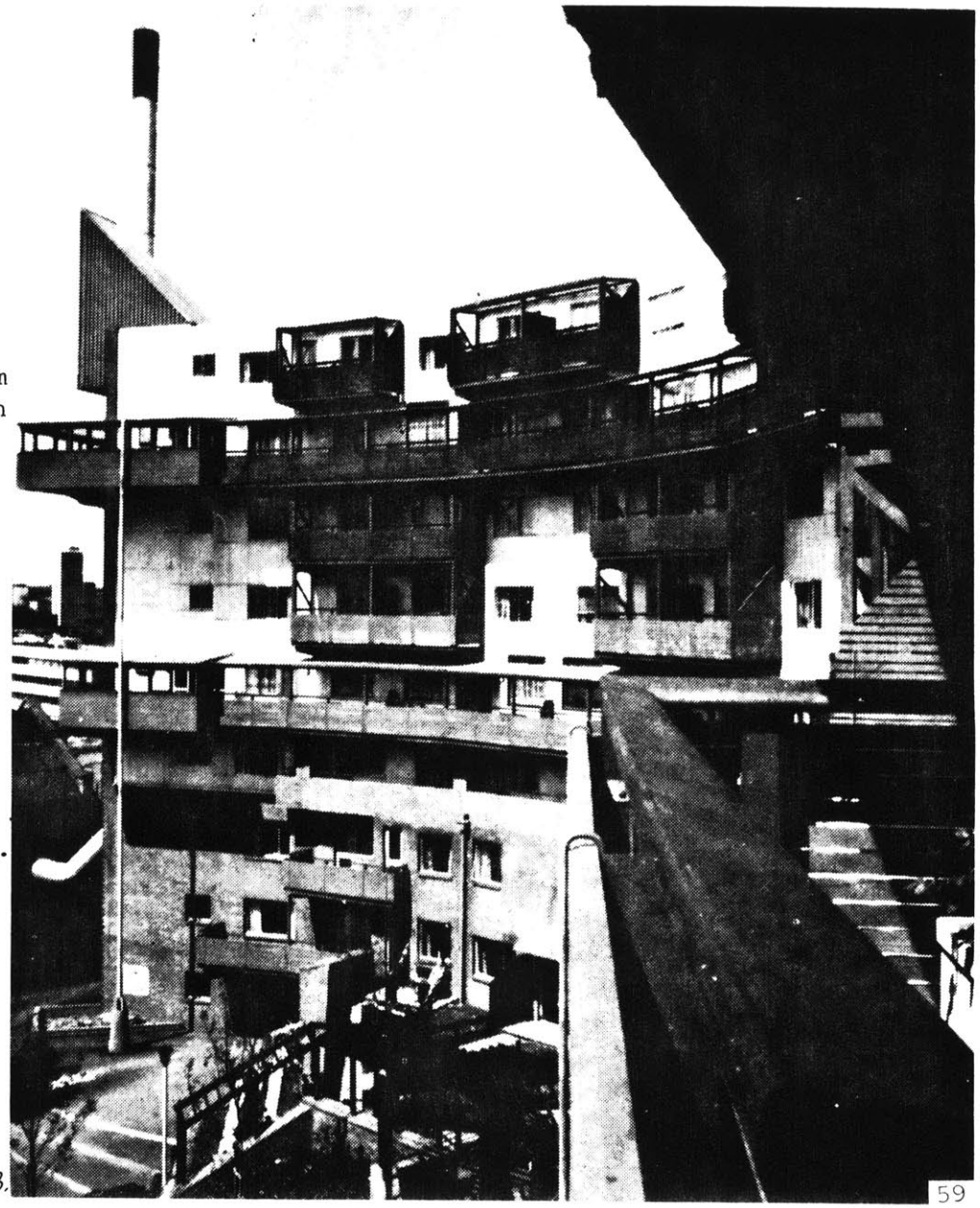
(Further information and illustrations of this project are found on pages 26 and 27.)



The balcony would be better accessible if the inhabitant did not have to intrude upon the privacy of one particular bedroom to reach it. (The same problem is seen in the previous example.)

The curtains are drawn closed along these access ways (see photograph) indicating a problem of vision from them into the privacies. This problem could be resolved by substituting translucent glass in the lower part of the window up to eye level maintaining clear glass above. Combined with a small level change, this measure can solve the vision problem without sacrificing desirable southern sunlight, nor evoking the response to close curtains.



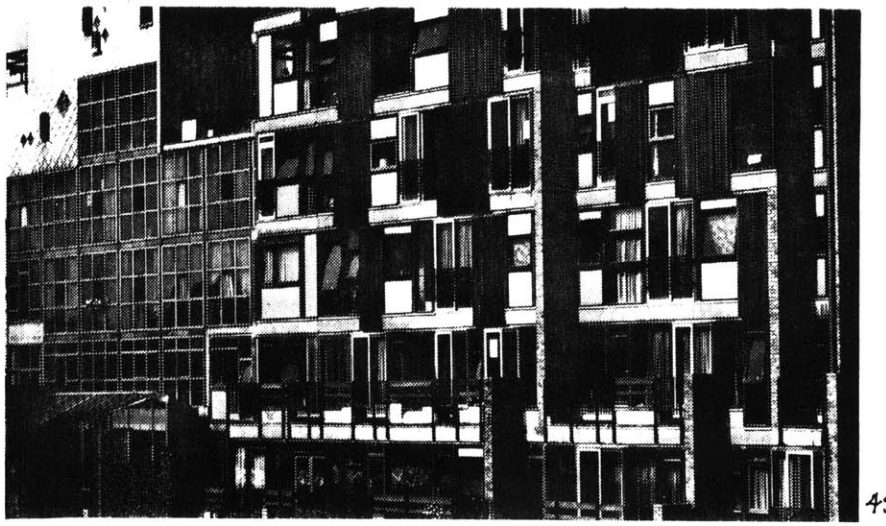


43.

44.

This student housing designed by Lucien Kroll is constructed so that each student can choose the enclosure panels for his or her own room. The students who originally occupied the rooms made their selections (shown in the photographs). Because of the effort required to exchange these panels for different ones, each new student would not be apt to exercise that choice. Moreover, if one did exercise that choice, the individual's efforts would blend in as part of the patchwork and fail to manifest the individual's shaping of his or her own place.

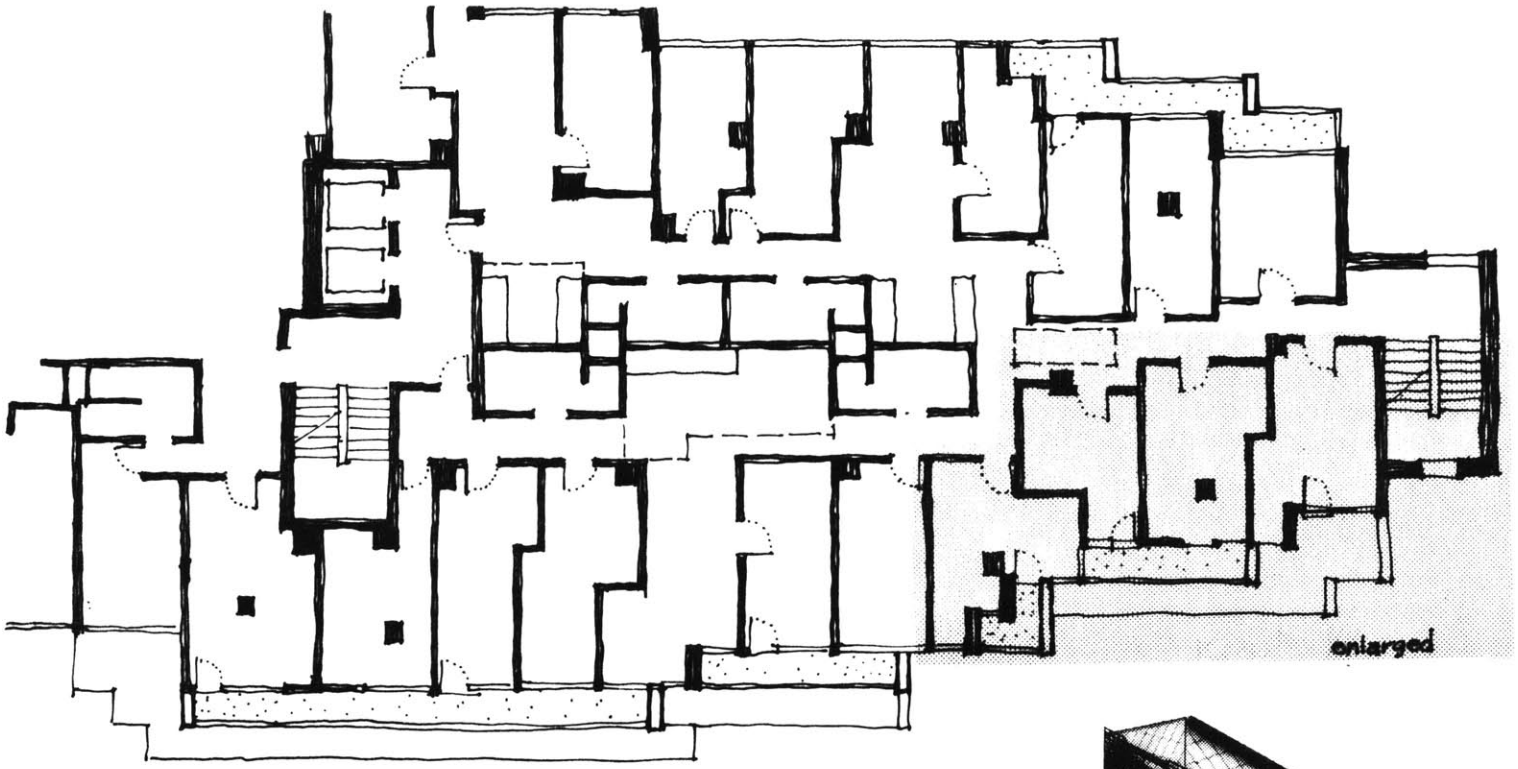
In spite of the incredible array of operable doors and windows occurring in this facade, the impact of their varied degrees of openness is virtually eliminated by the complexity of the overall patchwork. In the simpler part of the facade (the "fascist" section) the impact of the individual is much more obvious. Each operable window in that section is the middle panel of nine which forms the enclosure for one room. If the inhabitant opens the window, their room is strikingly identifiable in contrast to the stark facade. However, in cold weather when all the windows are closed, the facade takes on the quality of the typical container-like modern image.

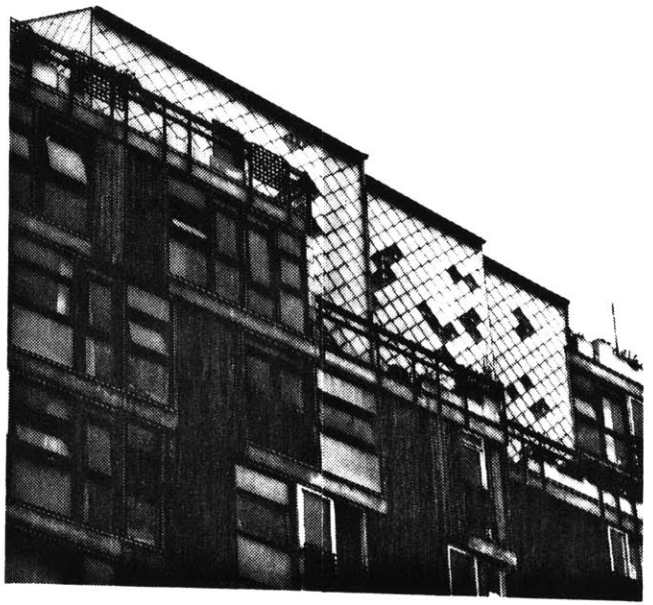


45.

"Fascist" section

Each student living in the fascist section has few choices to manipulate operable elements to tune his or her relationship to climatic factors.

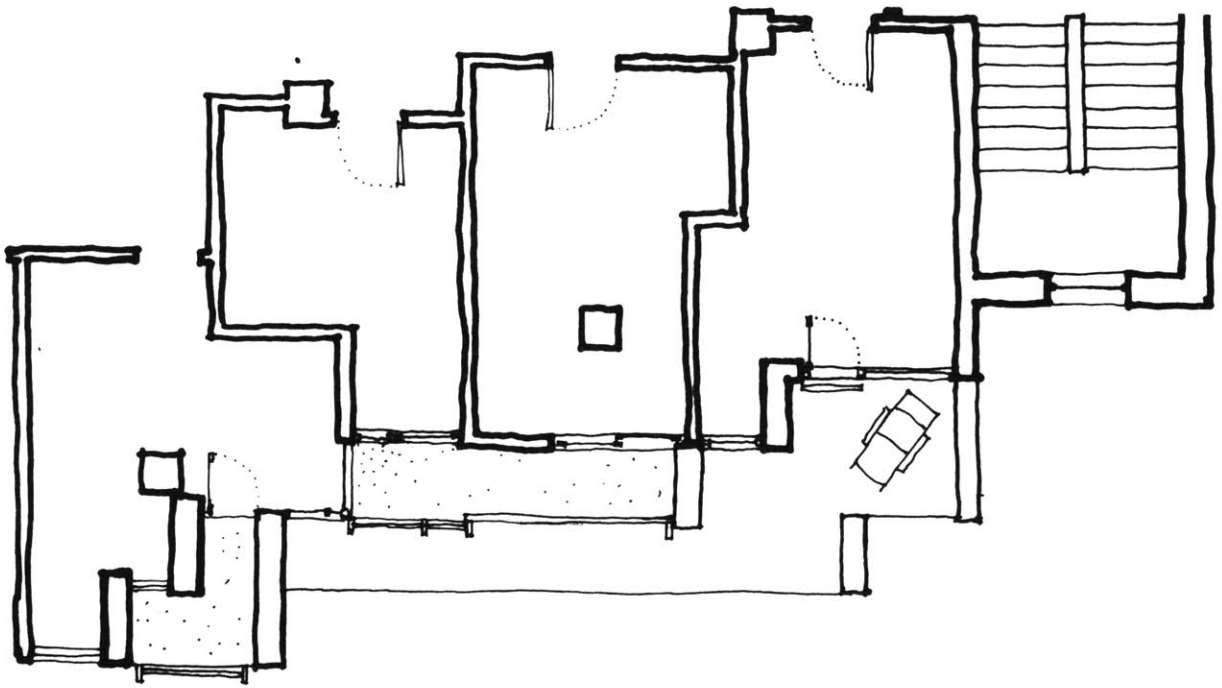


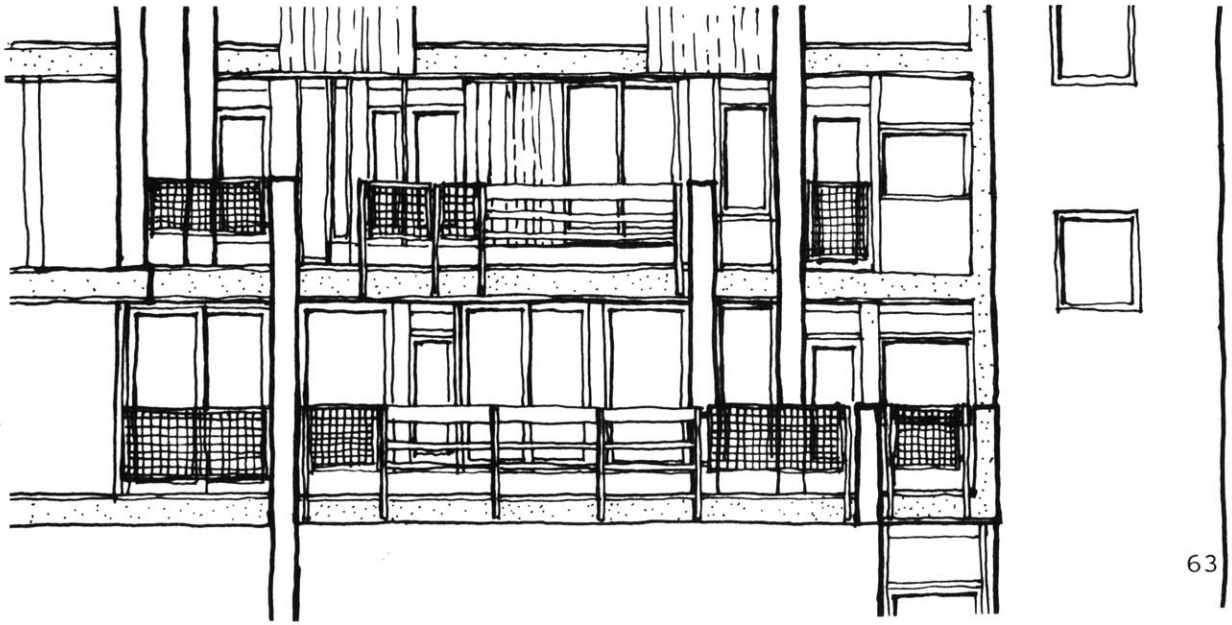


The balconies in Kroll's medical students' housing generally provide little closure and cover. They are somewhat unprotected, cliff-like places to be. (See also photos on previous page.)

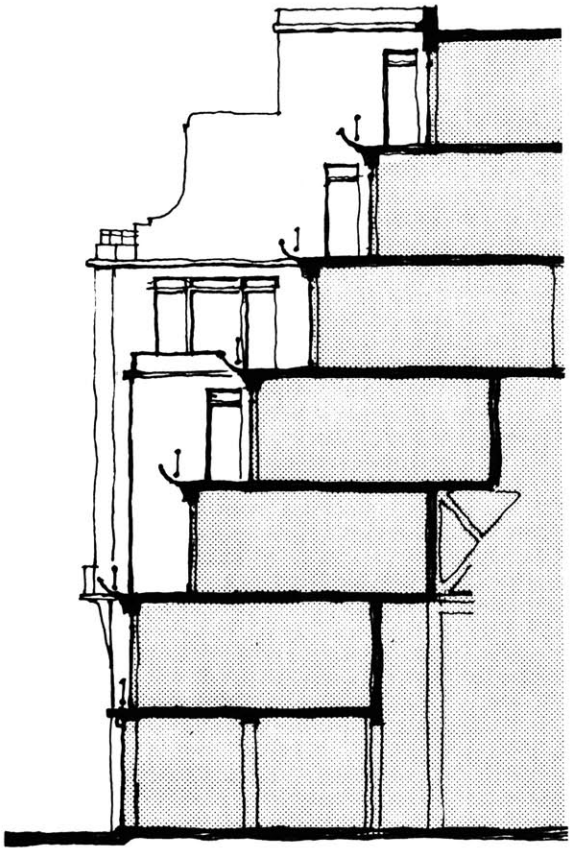
The balconies which have greater closure and deeper dimensions (shown in enlarged plan) have greater potential to support inhabitation.

47.



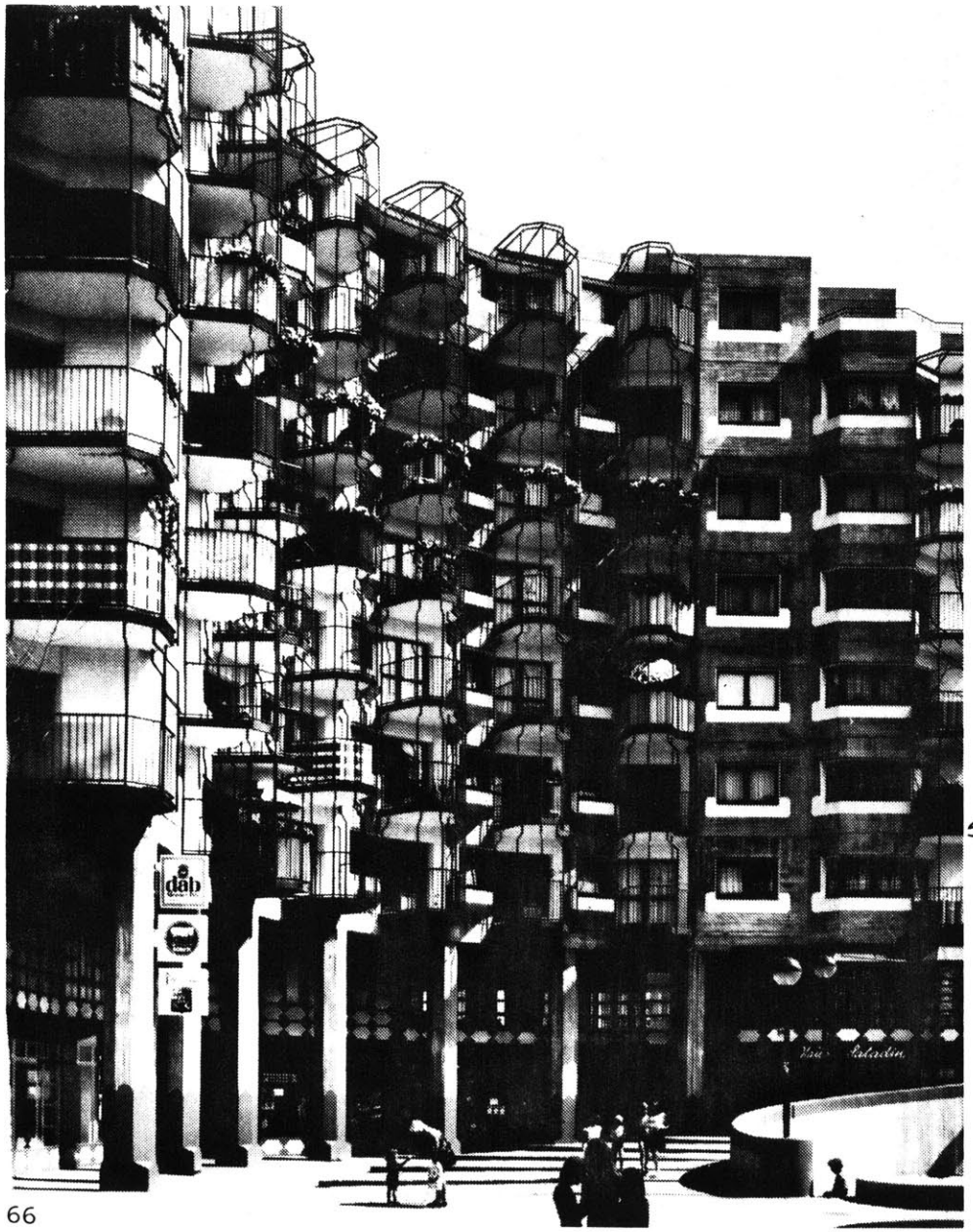


18.



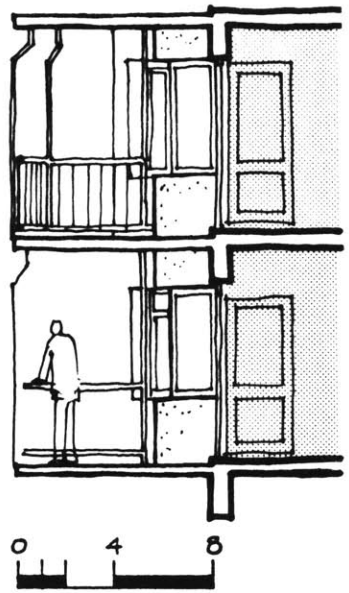
The tub-like projections at these balconies and the stepped facade together form secure balconies (rather than the cliff-like places seen in the student housing). The configuration also regulates vision from the street below.

49.

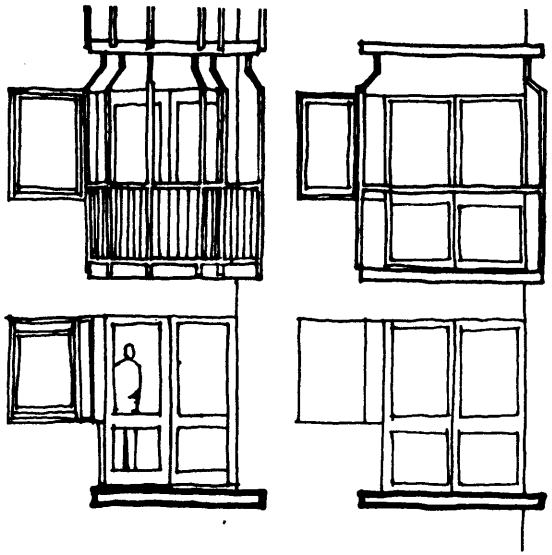


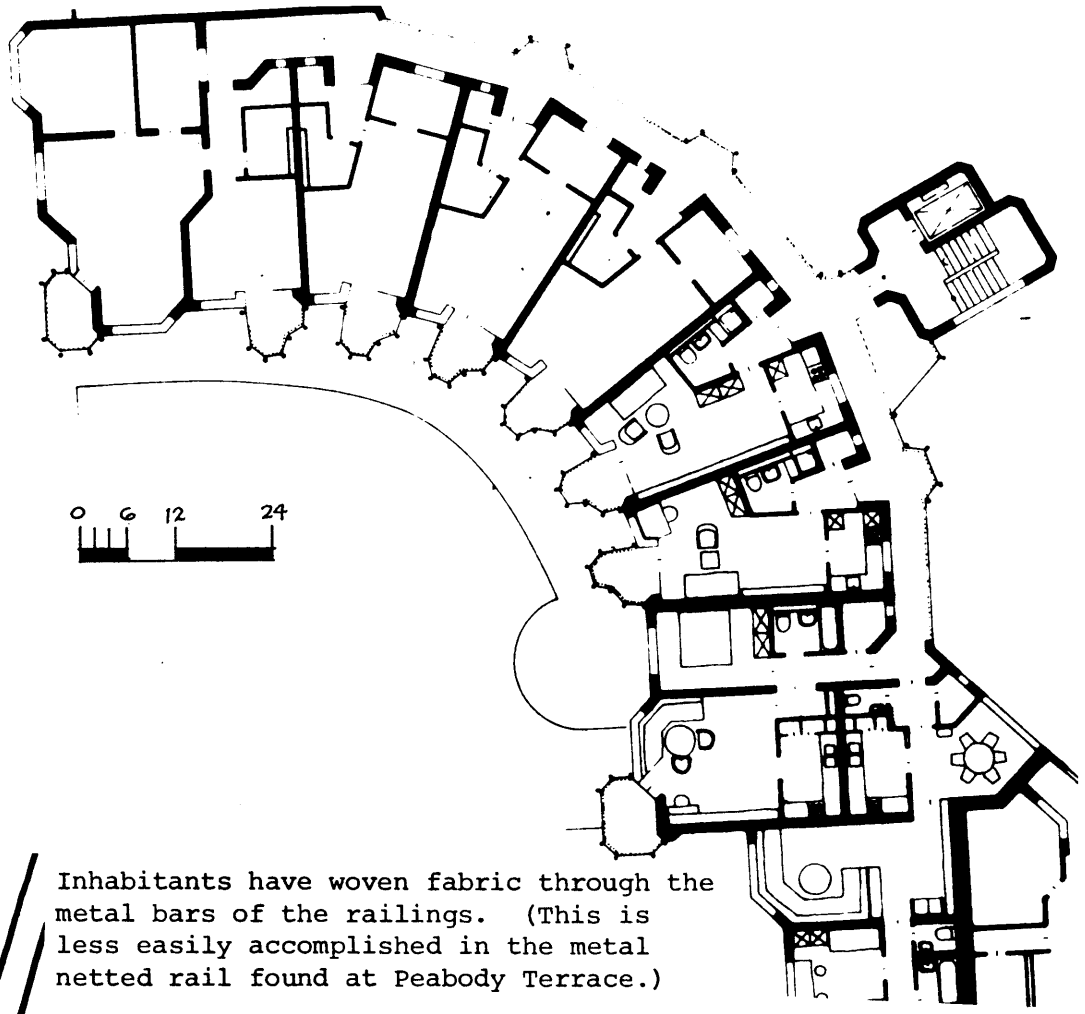
50.

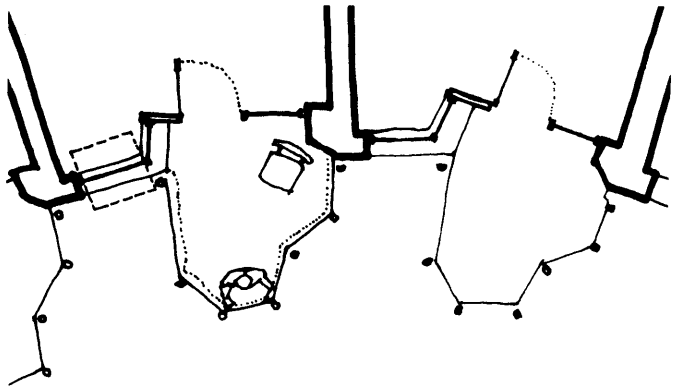
The architect can invite inhabitants to take part by creating a privacy problem yet suggesting several easy ways the inhabitants may surmount it through their own efforts.



Because the mass of this housing is concave, each balcony is in clear view of the others, particularly those which occur at the same level. Thus vision from fellow inhabitants as well as from the public must be regulated. The cage-like fixed metal structures at the balconies clearly neglect this problem. However, the structures begin to suggest that the inhabitants themselves add elements to suit their own needs.



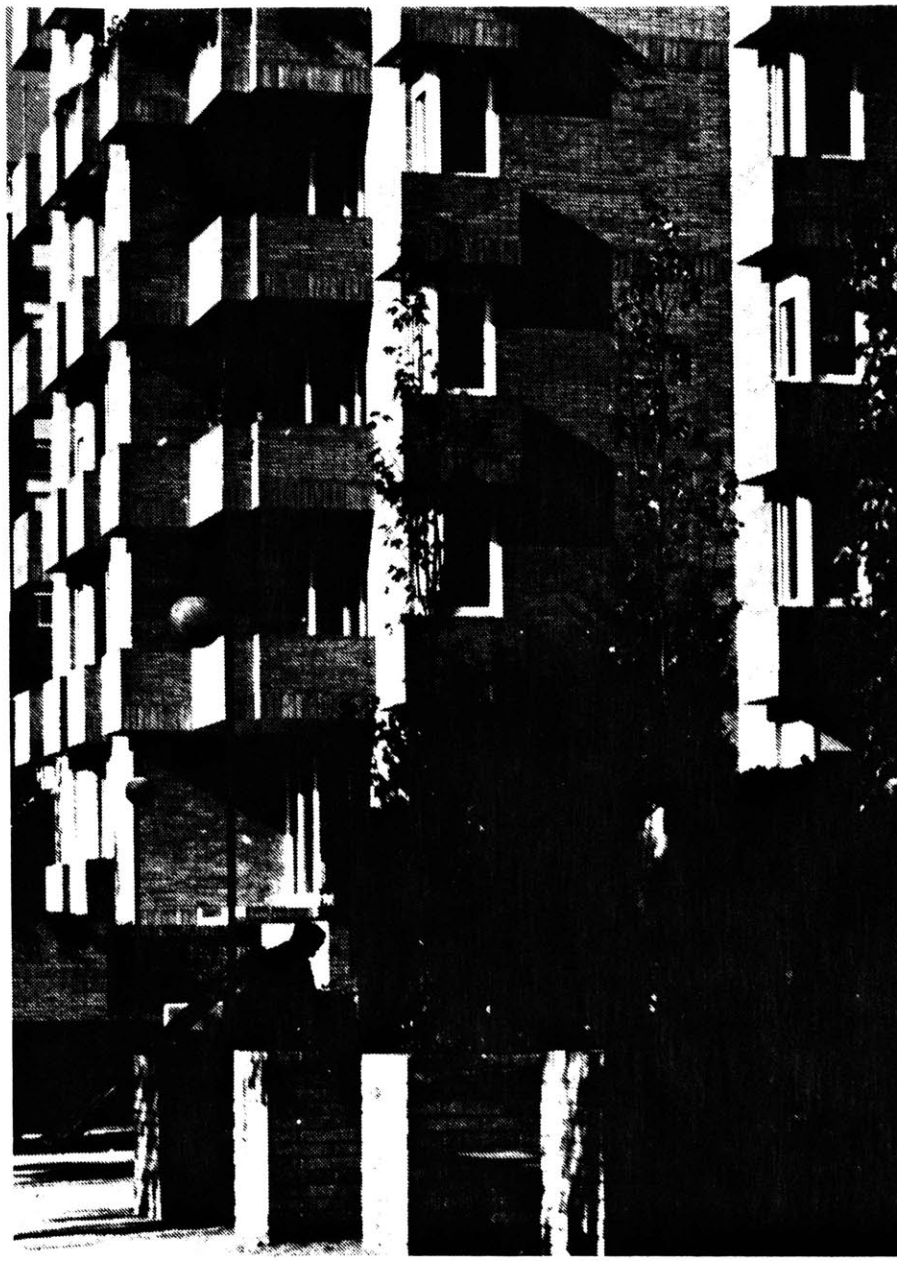




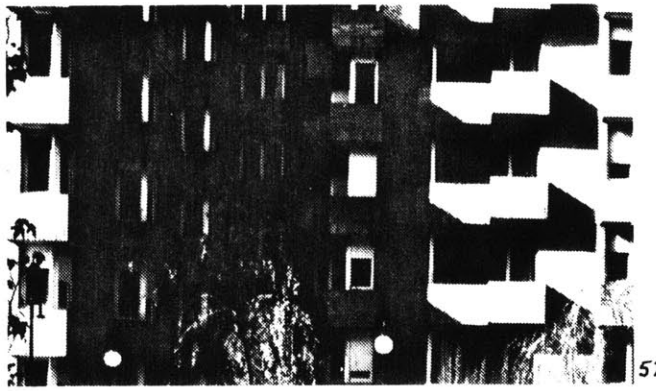
Inhabitants have woven fabric through the metal bars of the railings. (This is less easily accomplished in the metal netted rail found at Peabody Terrace.)

Moveable elements may also be fixed to the vertical metal bars though these elements could be much more suggestive.

(This building is part of a much larger project in Cologne, Germany by Gottfried Bohm.)



51.



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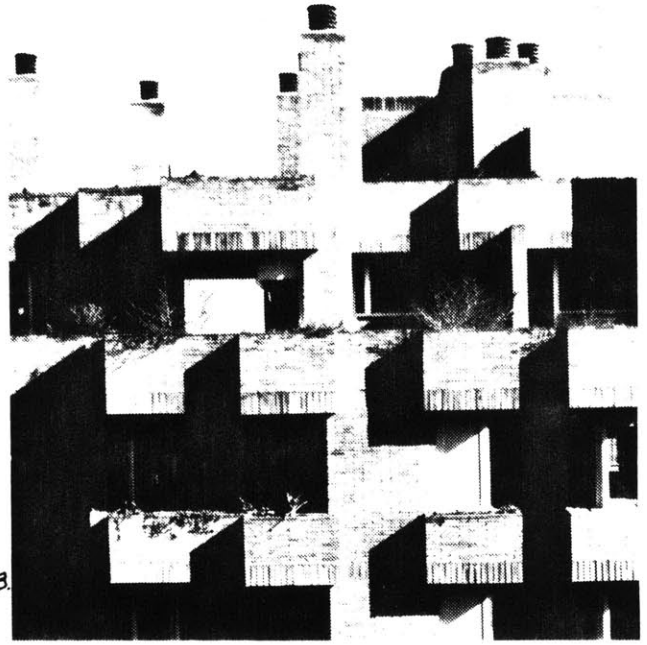

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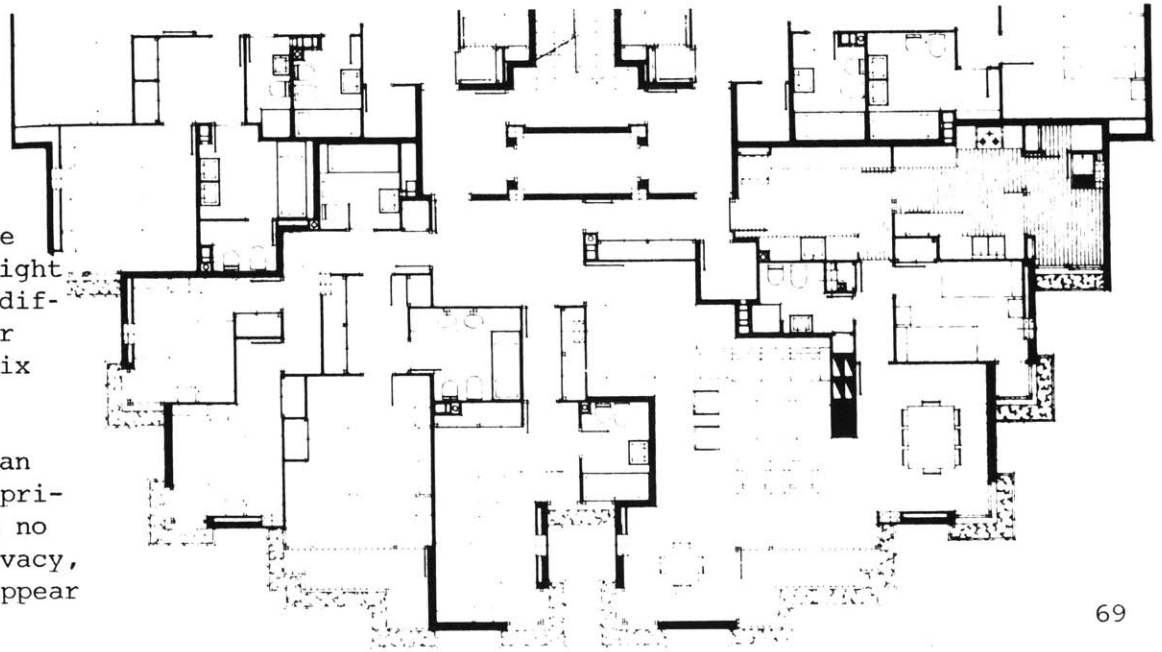
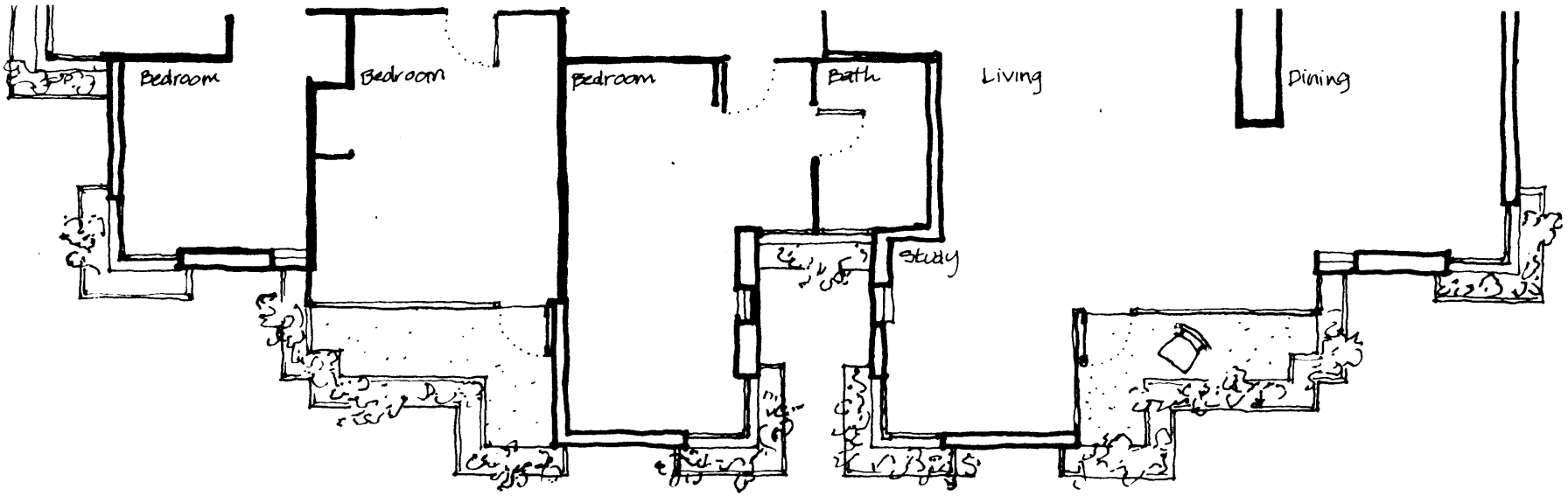
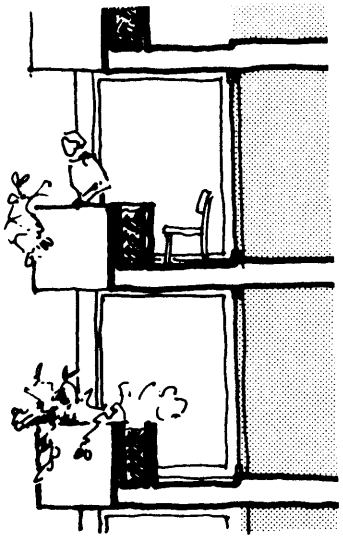
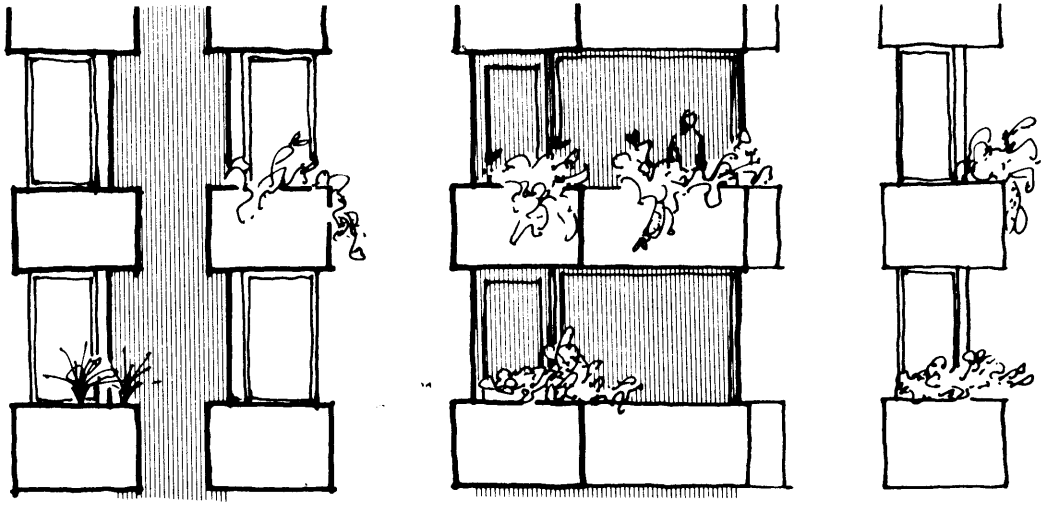


Even though the physical form of the housing suggests that inhabitants might add to it, the materials make this difficult. Also, there are no poles or beams to which inhabitants could afix sun shades, privacy screens, etc.

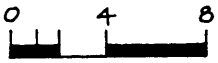
Because the configuration of the plan does not create problems of visual privacy, inhabitants may find there is no need to add devices to maintain privacy, and the building will continue to appear as the architect designed it.





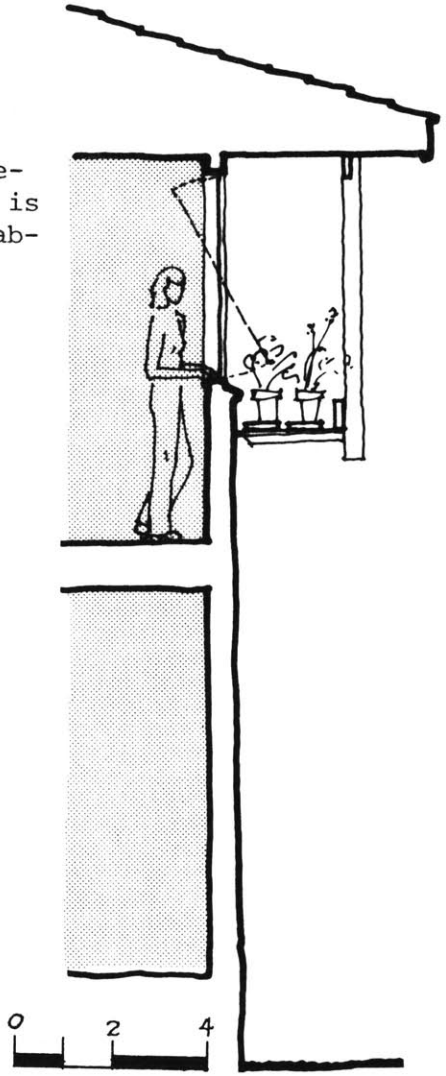


The physical form gives one kind of choice to the inhabitants: to grow or not to grow plants in the abundant planters provided.



54.

Unlike the previous example, the framework built outside the enclosure here is designed specifically to give the inhabitants a place to attach objects or occupy with personal belongings. And it's much less costly than building a balcony.

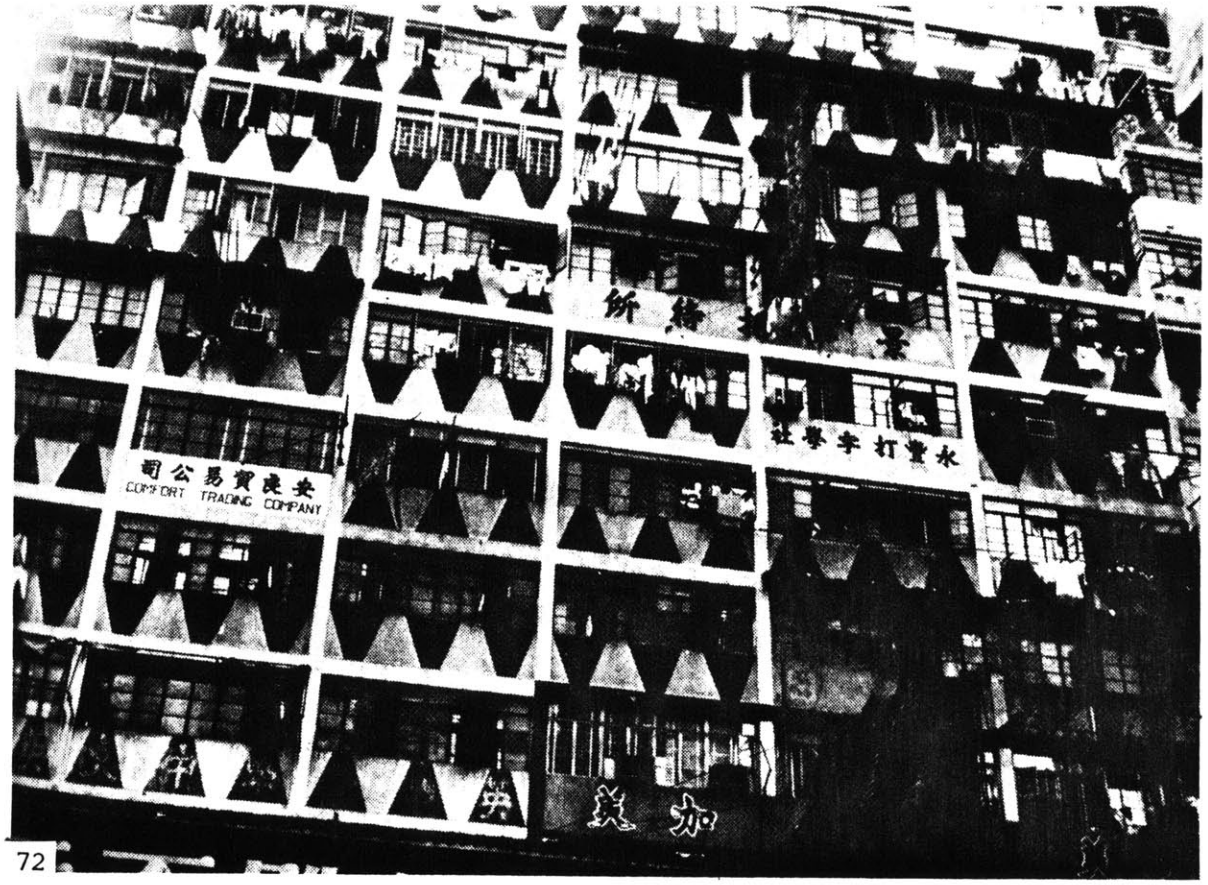


55

One should not overlook the potential of paint to enliven an otherwise repetitive, mundane facade.

In modern housing it is usually the management which controls paint application. However, it may be possible that the original design incorporate a good deal of variation in color, suggesting that the management have less rigid rules.

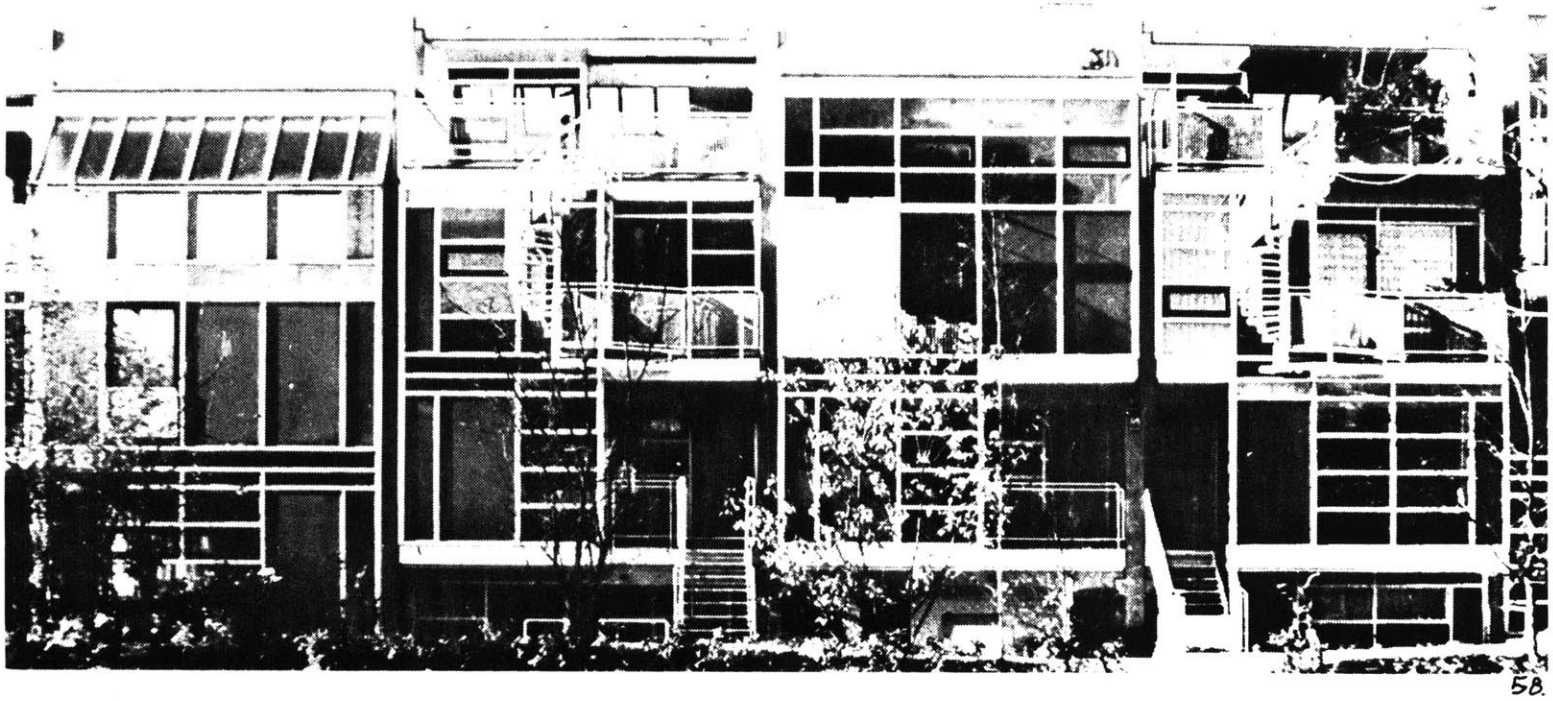
56.

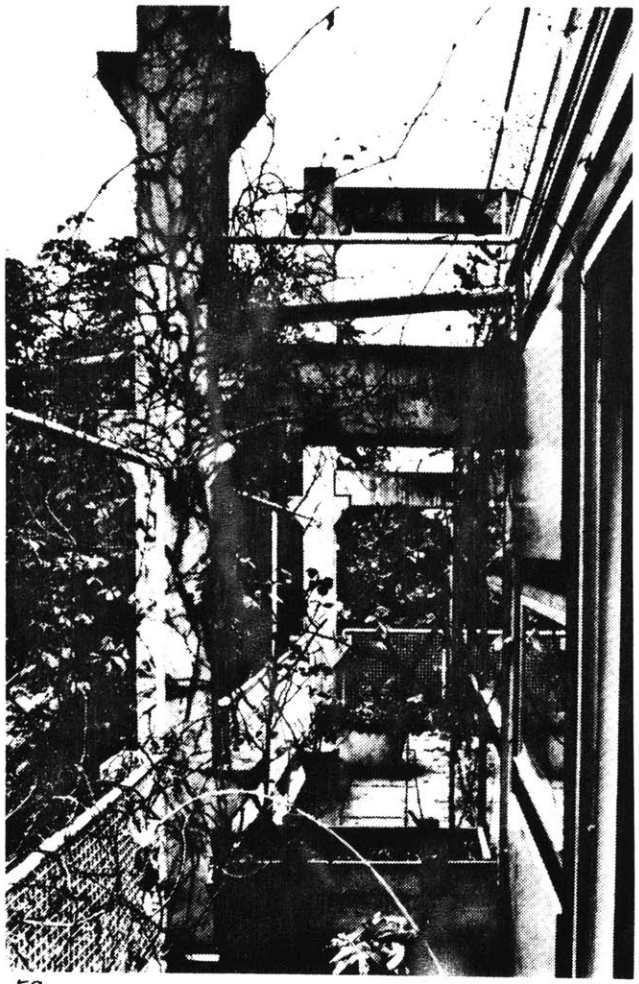


57

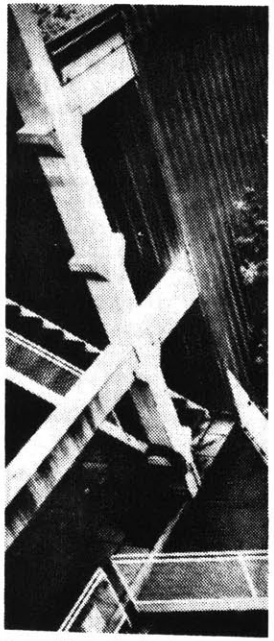
This project in Munich has a rich and inviting interface zone. The physical form seems somewhat incomplete, which invites inhabitants to improvise...

Both the enclosure and framework are made of prefabricated parts. The structural framework, which extends out beyond the enclosure in many places may suggest rather permanent additions. The lighter weight metal piping may invite seasonal additions: canvas sun shades in summer, etc.

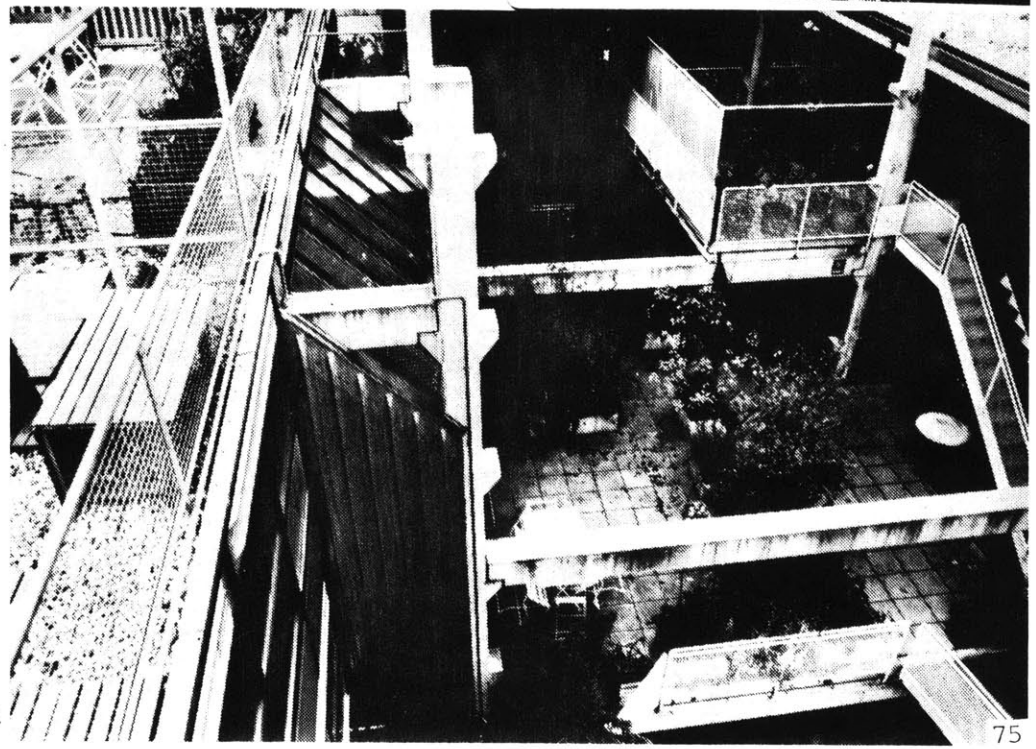




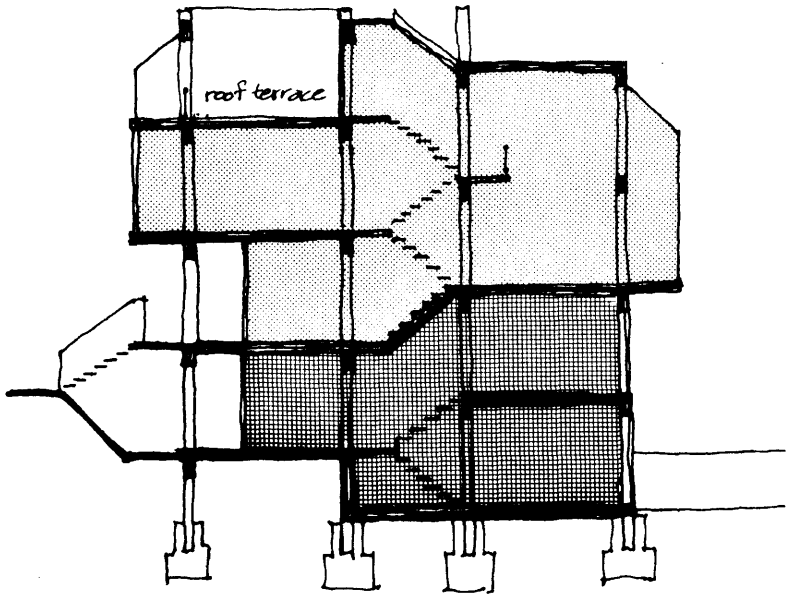
59.



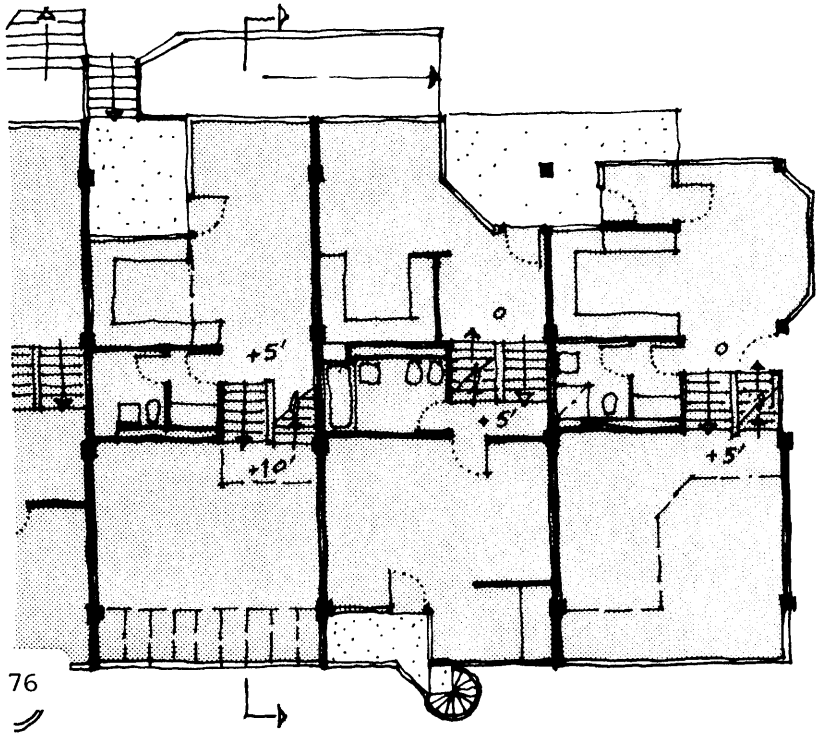
61.

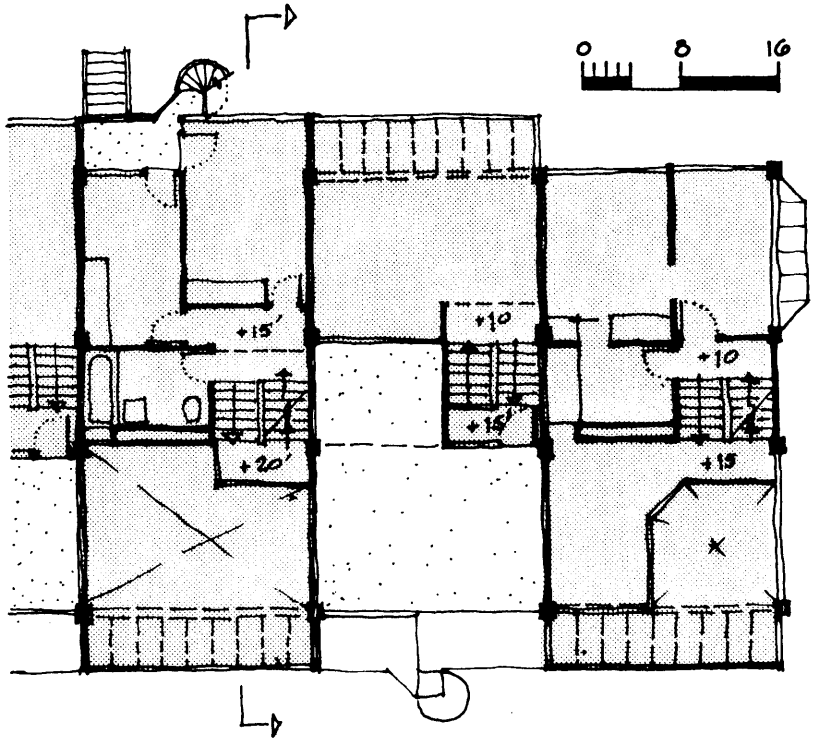


60.

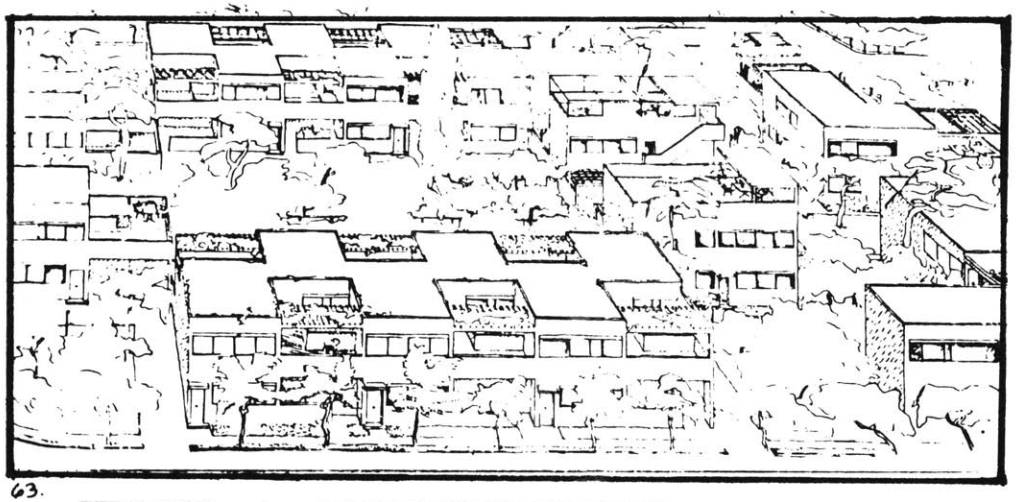


Those dwellings which do not have an outdoor space at ground level have a generously sized roof terrace, which could become an additional enclosed room.



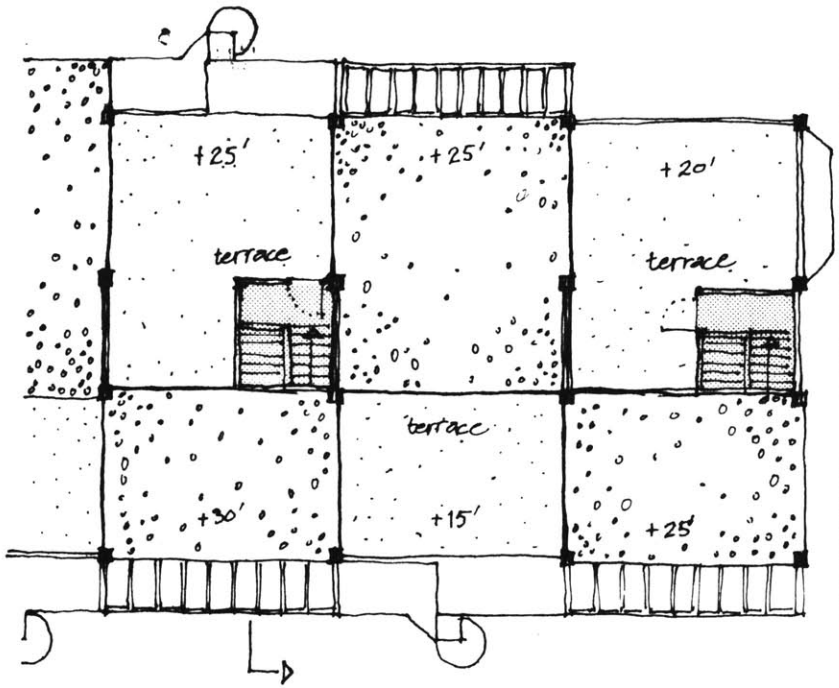


A portion of Le Corbusier's housing scheme at Pessac included similar, yet more uniform roof terraces. ——▷



63.

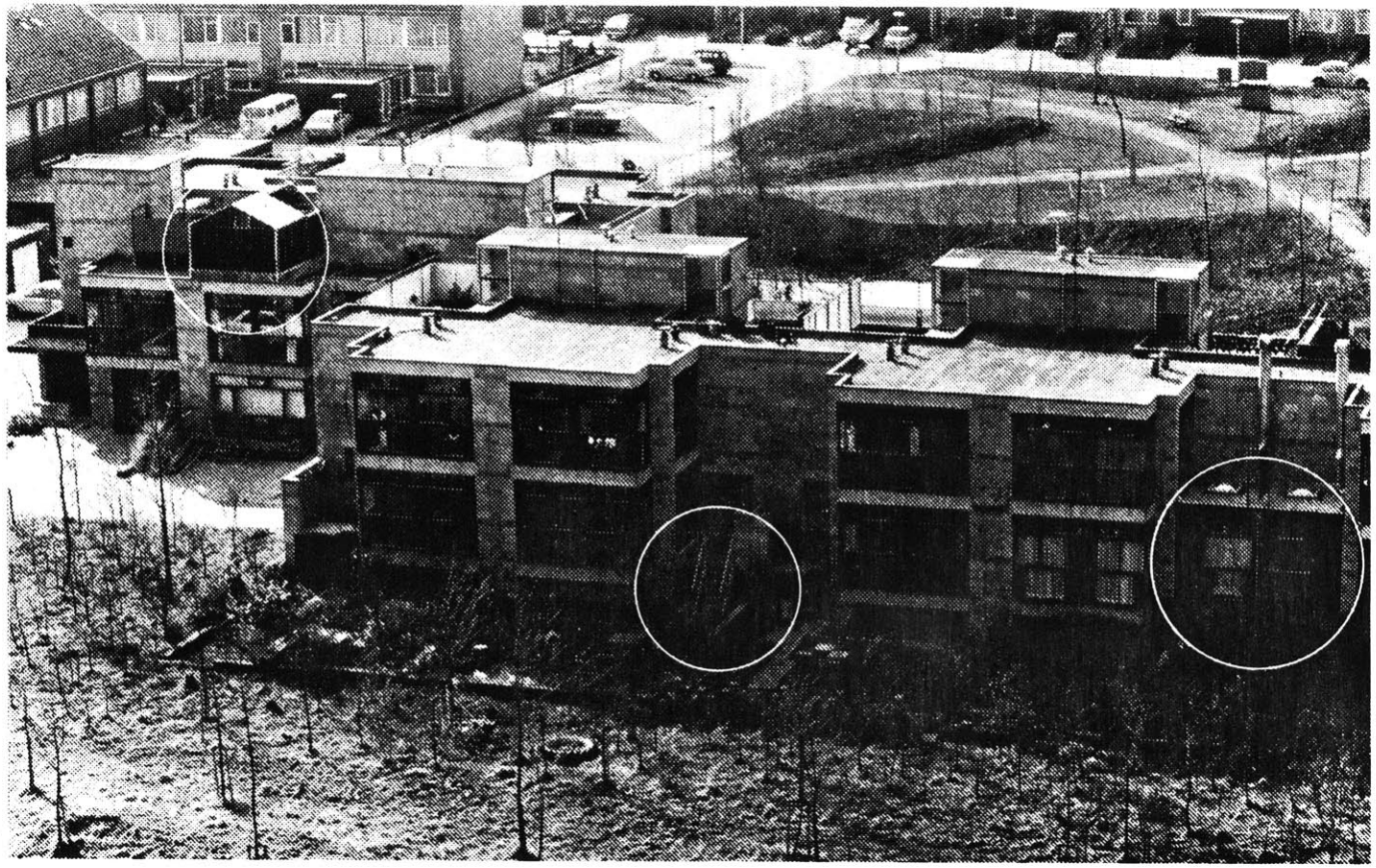
62.



Herman Hertzberger's experimental housing at Delft is consciously designed to invite the inhabitants to take part in shaping their own place. It has both built-in formal ambiguities, and formal cues for inhabitants to resolve the ambiguities in their own ways.

Circled areas indicate inhabitants' own efforts.

64.



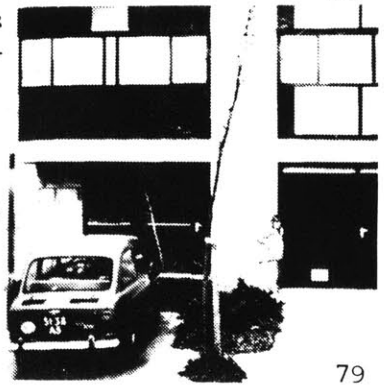
65 a.

65 b.

65 c.

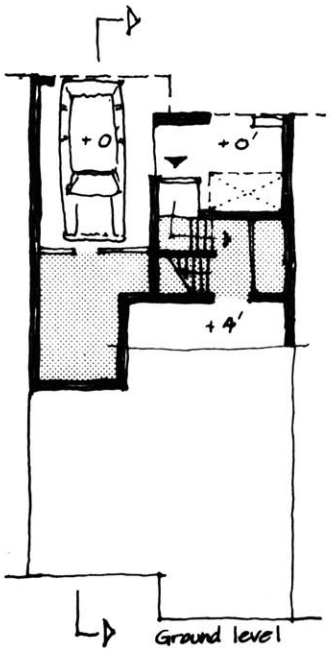
65 d. (same view over time)

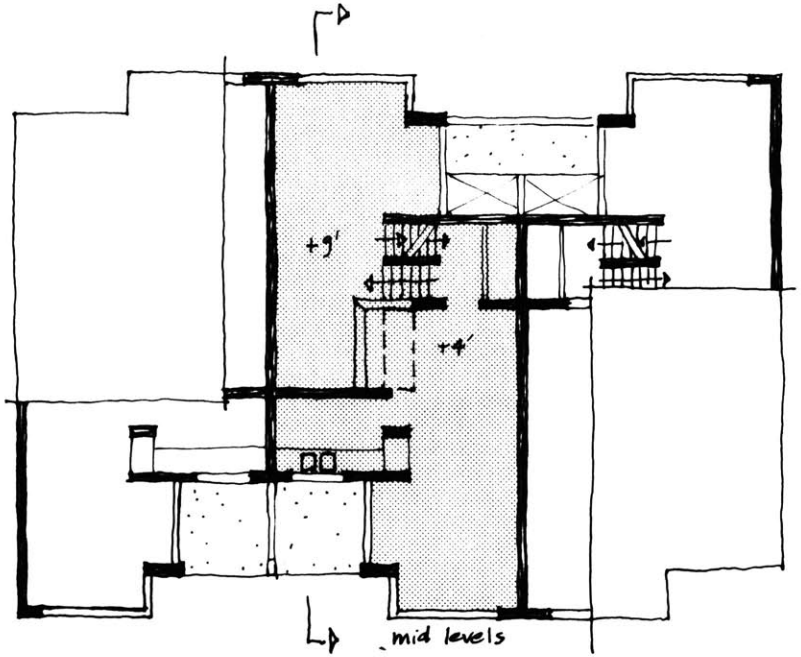
66.

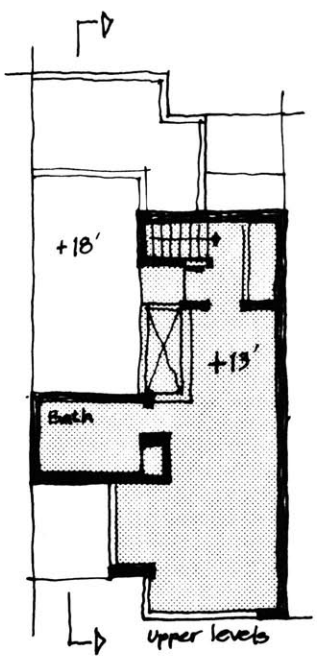


At entry and parking level paving stones were laid without mortar. Slowly, inhabitants removed them where they were unnecessary and replaced them with planters (above).

The enclosure panels are exchangeable. Some inhabitants have located opaque panels where others have chosen transparent ones. (Colored and translucent panels should be on the list of choices also.)



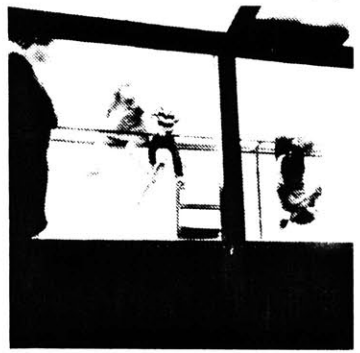




Living and sleeping areas are not clearly defined by the architect so the inhabitants must also take part in designing their own living space.

72.

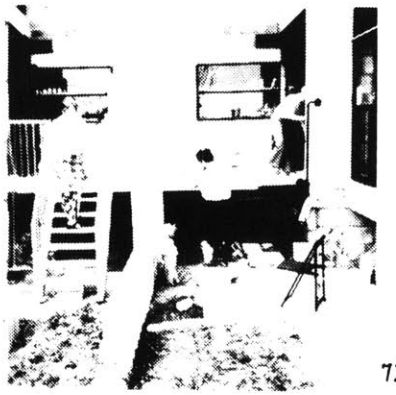
68.



Metal piping serves as framework for canvas screen.

One family has chosen to enclose the balcony (at +4') to make a room, creating a new balcony above (at +13').

69.



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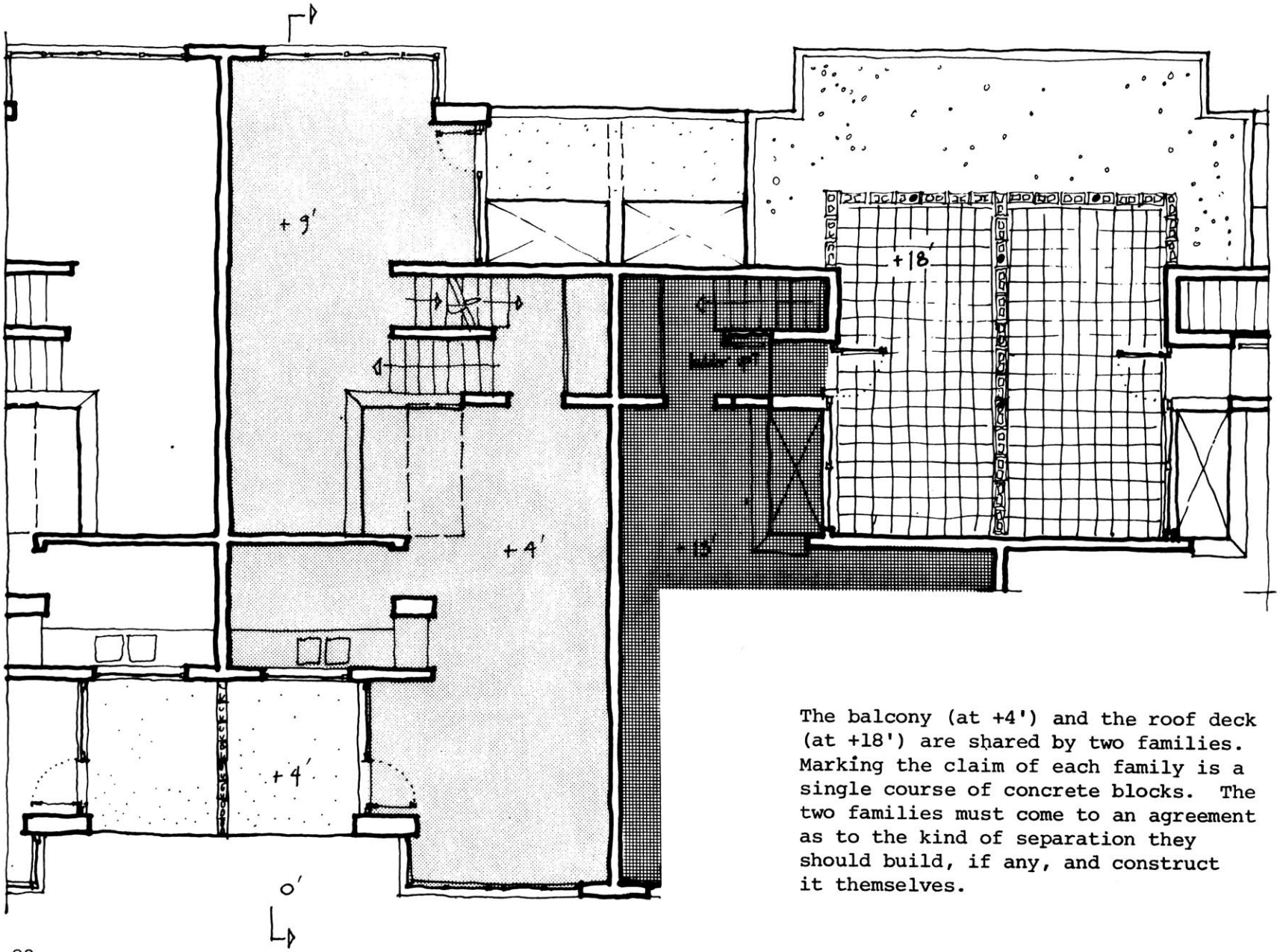
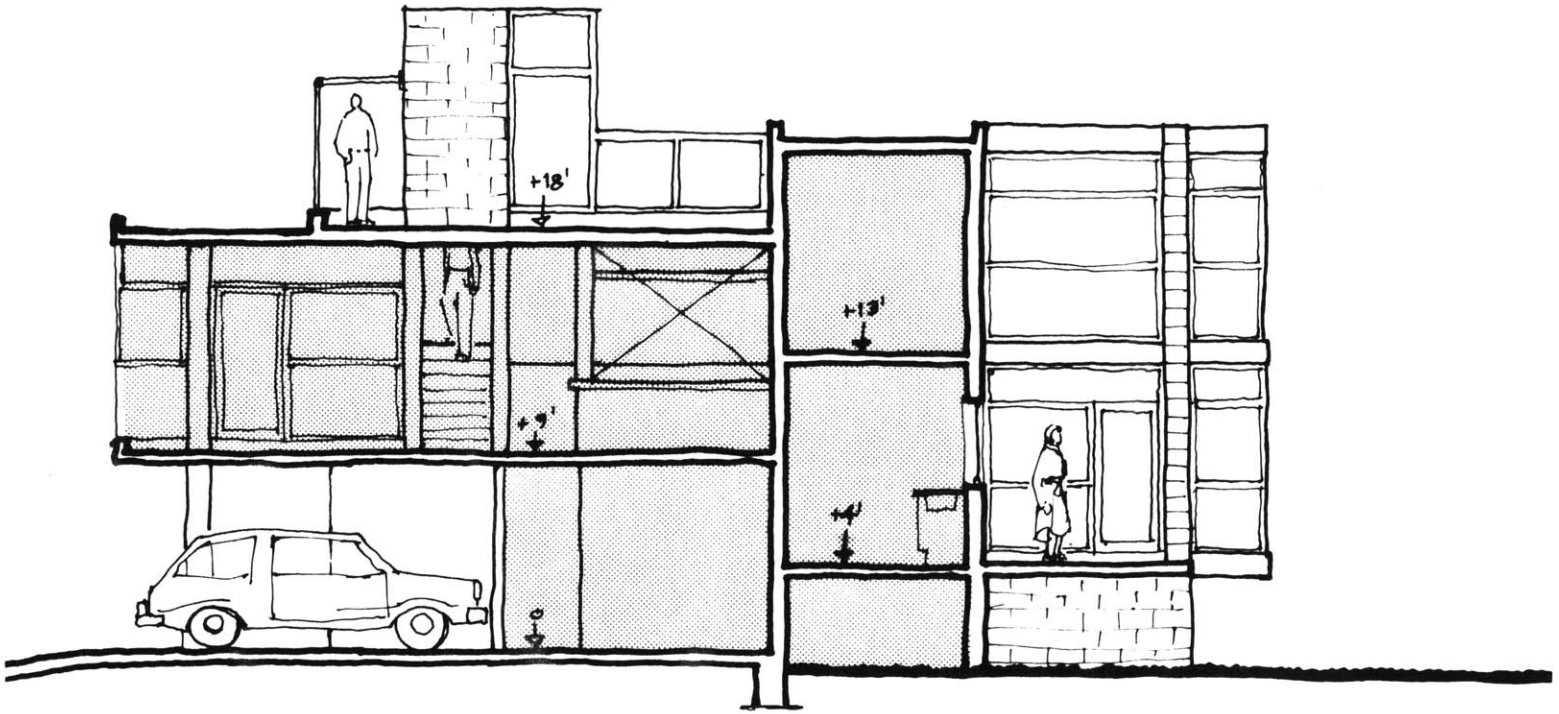


The balcony (at +4') and the roof deck (at +18') are shared by two families. Marking the claim of each family is a single course of concrete blocks. The two families must come to an agreement as to the kind of separation they should build, if any, and construct it themselves.



67.

70.

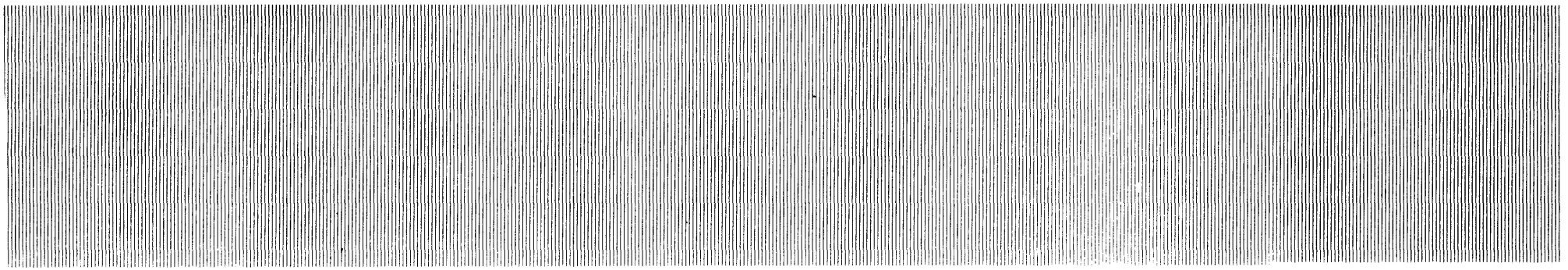
Projections

The next question which arises is: how might one make use of the catalogue as a reference for design? I have intentionally refrained from making sweeping statements or specific guidelines for design because such generalizations are often misleading when presented outside a particular context. The graphic matter and commentary should speak for themselves.

The catalogue presents a variety of physical elements which are not intended to be extracted and re-employed as is, but modified or combined in different ways to solve site-specific problems. Considering the quality of aliveness as a design objective, the ultimate evaluation of the resulting design could only take place after years of inhabitation.

The concept of the "interface zone" is still at rudimentary levels of development. The next step is to gain an understanding of the concept with respect to a specific context. Typologies of interfaces could be determined based on a categorization of the physical elements and spaces which regulate the factors of climate and publicness.

Further observation and cataloguing would also be a valuable exercise. There



is more to be learned through making a catalogue than from referring back to it. By drawing and documenting built form, the image becomes etched in the mind. Through critical observation based on personal values the image is interpreted and becomes meaningful.

In this thesis I have had the opportunity to develop my own values concerning the individual's impact on the public domain. The struggle to understand the intuitive notion of aliveness has been as fruitful as the search for buildings which possess the quality, if not more.

PHOTO CREDITS AND SOURCES

1. Piazza del Campo; Siena, Italy; photo by author.

2. Narrow street; Florence, Italy; photo by author.

3. Amsterdam, Kalverstraat; c. 1935; photographer not credited; M. R. Wolfe, AIP; "Shopping Streets and the Pedestrian Rediscovered"; in AIA Journal, May 1962; p. 36.

4. Narrow sloping street; Dubrovnik, Yugoslavia; photo by author.

5. Sudanese tribe: the Dogon; photograph from Calavas, Collection Musee de l'Homme; Architecture Without Architects; Bernard Rudofsky; Doubleday and Co., Inc., Garden City, N.Y.; p. 40.

6. Wall at street; Montepulciano, Italy; photo by author.

7. Golden Gateway Center, San Francisco; 1955-1970; architects: Wurstur,
8. Bernardi, and Emmons; photographer not credited; in L'Architecture d'Aujourd'hui; No. 157; Aug.-Sept. 1971; p. 39.

9. Window as display; Peabody Terrace; photo by author.

10. Dundas/Sherbourne Housing; Toronto, Canada; 1976; architect: Barton Myers Associates; photographer: Ian Samson; in Architecture and Urbanism, December 1978; p.8.

11. Ibid., p. 9.

12. Byker, Newcastle Upon Tyne, England; early 1970's; architects: Ralph Erskine, Vernon Gracie and Associates; photographer not credited; in L'Architecture d'Aujourd'hui; No. 187; Oct.-Nov. 1976; p. 52.

13. Infill housing, Amsterdam, Aldo van Eyck and Theo Bosch; photographer not credited. Hans F. D. Davidson, "The Jordaan and Haarlem neighborhoods in Amsterdam: Planning for the Future of a Historic Neighborhood," The Conservation of European Cities, Donald Appleyard, ed., M.I.T. Press, 1979, p. 229.

14. Infill housing; Nieuwmarkt, Amsterdam; architects: Aldo van Eyck and Theo Bosch; 1977-8; photographer not credited; in Werk-Archithese; No. 31-32; Jul.-Aug. 1979; p. 68.

15. Street facade, apartment building; Barcelona; 1969-71; architects: Martorell, Bohigas, and Mackay; photographer not credited; in L'Architecture d'Aujourd'hui; No. 177, Jan.-Feb. 1975; p. 79.

15a. Site plan, Ibid.

16. Nineteenth Century housing in Madrid; original documentation by Fer-
16a. nando Domeyko; redrawn from photo courtesy of Rotch Visual Collection, M.I.T.

17. Apartment building, facade at public courtyard, Florence, Italy; architect unknown; photo by author.

18. Sliding shutters, Frederic Emmons Ternan Engineering Center, Stanford University; Palo Alto, California; 1977; architects: Harry Weese and Associates; photographer not credited; in Architectural Record; Nov. 1978; p. 41.

19. Shutter Detail, Paris; photographer and author: Claudine Huza Marechal; Paris et Ses Accroches Coeurs; Editions Denoel; Paris, 1971; p. 112.

20. Shutter detail on apartment building facade; Timisoara, Romania; photo by author.

21. Shutter detail; Siena, Italy; photo by author.

22. View of enclosure with awning; The Free University of Berlin; 1963-73;
22a. Architects: G. Candilis, A. Josic, S. Woods, M. Schiedhelm; Photographer not credited; in L'Architecture d'Aujourd'hui; No. 177; Jan.-Feb. 1975; p. 48.

23. Apartment building; Kotor, Yugoslavia; architect unknown; photo by author.

24. Housing; Location, architect, and photographer unknown; photo from The Visual Perception of the Built Environment by Niels L. Prak; Delft University Press; 1977; p. 50.

25. Balconies, Peabody Terrace; Cambridge, Massachusetts; early 1960's; architects: Sert, Jackson, Gourley; photo by author.

26. High-rise building; Peabody Terrace; photo by author.

27. Window detail; Peabody Terrace; photo by author.

28. Interior view at bedroom; Peabody Terrace; photographer: Phokion Karas; in Architectural Record; Dec. 1964; p. 127.

29. Facade, Harbor Towers; Boston; architect: I. M. Pei; photo by author.

30. Apartments; 25 bis Rue Franklin; Paris; architect: A. Perret; photogra-
31. pher not credited; in Modern Housing Types by Roger Sherwood; Harvard University Press; 1978; p. 76,77.

32. Street facade, office and residential building; Paris; 1913; architect: Henri Sauvage; photographer not credited; in Henri Sauvage; Documentation of exposition organized by Archives d'Architecture Moderne, Brussels, and Societe des Architectes Diplomes par le Gouvernement, Paris; 1976-7; p. 143.

33. Casa Batllo; Tracing from proposal made for the building permit; drawing courtesy of Valerie Thiel; "The Forogtten Facade"; M.Arch. Thesis; February 1980.

34. Casa Batllo; Barcelona, Spain; 1904-06; architect: Antonio Gaudi; photo in The Language of Post Modern Architecture; by Charles Jencks; p. 117; photo by Esquela Technica Superior de Arquitectura de Barcelona.

35. Infill housing, street view; Zwolle, Netherlands; 1975-77; architects: Aldo van Eyck and Theo Bosch; in Lotus International; No. 18; March 1978; p. 57 (see p. 136 for photo credits).

36. Infill housing, rear view; Zwolle, Netherlands; photographer not credited; The Language of Post-Modern Architecture; Charles Jencks; Rizzoli International Publications, Inc.; 1977; p. 100.

37. Infill housing; interior view at greenhouse; Zwolle; photographer: Brent C. Brolin; in Architecture in Context; by Brent C. Brolin; Van Nostrand Reinhold Co.; 1980; p. 107.

38. 38a. Design scheme for infill housing; Jordaan, Amsterdam; architects: Aldo van Eyck and Theo Bosch; axonometric drawing not credited; L'Architecture D'Aujourd'hui No. 180; Jul. - Aug. 1975; pp. 41, 42.

39. 39a. Facade at public square; Ghent Square; Norfolk, Virginia; 1977-78; architects: Barton Myers and Associates; photographers: Lautman, Washington; L'Architecture d'Aujourd'hui; No. 205; Oct. 1979; p. 45.

40. 41. 42. Dundas/Sherbourne Housing; Toronto, Canada; 1976; architect: Barton Myers Associates; photographer: Ian Samson; in Architecture and Urbanism; December 1978.

43. Byker, Newcastle Upon Tyne, England; early 1970's; architects: Ralph Erskine, Vernon Gracie and Associates; photographer: Bill Toomey; in The Language of Post Modern Architecture; by Charles Jencks; 1977; p. 105.

44. General view, medical students' housing; University of Louvain, Brussels; 1970's; architect: Lucien Kroll et.al.; photographer: Taisuke Ogawa; in Architecture and Urbanism; No. 110; Nov. 1979.

45. View showing operable glazing; Ibid., p. 9.

46. Details of facade; Ibid., p. 9.
47.

48. Street facade, apartment building; 26 rue Vavin, Paris; 1912; architect: Henri Sauvage; photographer not credited; in Henri Sauvage; op. cit.; p. 163.

49. View of facade from below: Ibid. p. 156.

50. Housing project for the Office of Urbanism, Cologne, West Germany; architect: Gottfried Bohm; photographers: Inge and Arved von der Ropp; in L'Architecture d'Aujourd'hui; No. 196; April 1978.

51. Housing, general view; Barcelona, Spain, 1970's; architect: Jose Coderch; photographer not credited; in L'Architecture d'Aujourd'hui; No. 177; Jan. - Feb. 1975; p. 72.

52. Barcelona housing, Ibid. p. 73.
53.

54. Details of exterior wall; Housing at Duffryn; Newport, South Wales; c. 1975; architects: Mouchel Design Group; photographer: Martin Charles; in The Architects' Journal, No. 7, Vol. 171; Feb. 13, 1980; p. 338.

55. General view; housing at Duffryn; Ibid. p. 334.

56. Facade, Hong Kong; photographer not credited; in Plan Netherlands, Sept. 1979; p. 51.

57. Housing; view at entries; Munich, West Germany; 1970's; architects: O. Steidle, R. Sommerer, and J. Freiberg; photographer not credited; in Deutsche Bauzeitung; Jan. 1980; p. 9.

58. View of facade; housing, Munich; photographer not credited, in L'Architecture d'Aujourd'hui; No. 196; April 1978; p. 35.

59. View at balconies; housing, Munich; photographer not credited; in Deutsche Bauzeitung; Jan. 1980; p. 14.

60. Views from roof; Ibid., p. 16.
61.
62.

63. Aerial perspective drawing of Sector C at Pessac; architect: Le Corbusier; in Le Corbusier at Pessac; Exhibition prepared at the Carpenter Center for the Visual Arts, Harvard University, under the direction of Eduard Sekler; 1972.

64. Experimental Housing at Delft, Holland; architect: Herman Hertzberger; photographer: Willem Dierpraam, in Wonen - TA/BK; number 6, March, 1978; p. 22.

65a.-d. Experimental housing at Delft; photographer not credited; in Architecture and Urbanism; March 1977; p. 119.

66. Housing at Delft, Ibid.
67.
68.

69. Housing at Delft; photographer: Willem Dierpraam; Ibid., p. 119.

70. Housing at Delft; photographer: Herman Stegman; Ibid., p. 117.

71. Housing at Delft; photographer: Willem Dierpraam; Ibid., p. 118.

72. Housing at Delft; photographer not credited;
73. Ibid., p. 119.